CONCHOLOGIA ICONICA:

OR,

ILLUSTRATIONS

OF THE

SHELLS OF MOLLUSCOUS ANIMALS.

Division of Mollusks
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VOL. XII.

CONTAINING MONOGRAPHS OF THE GENERA

ARGONAUTA.
NAUTILUS.
TEREBRA.
ASPERGILLUM.
THRACIA.
MELANIA.
HEMISINUS.
ANCULOTUS.
MELATOMA.
IO.
PIRENA.
MELANOPSIS.
SCARABUS.
TRIGONIA.
MYOCHAMA.

BY

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> "Ne vous bornez donc pas au seul plaisir des yeux,
> En le connoissant plus vous en jouirez mieux."—*De Lille.*

LONDON:
LOVELL REEVE, HENRIETTA STREET, COVENT GARDEN.
1860.

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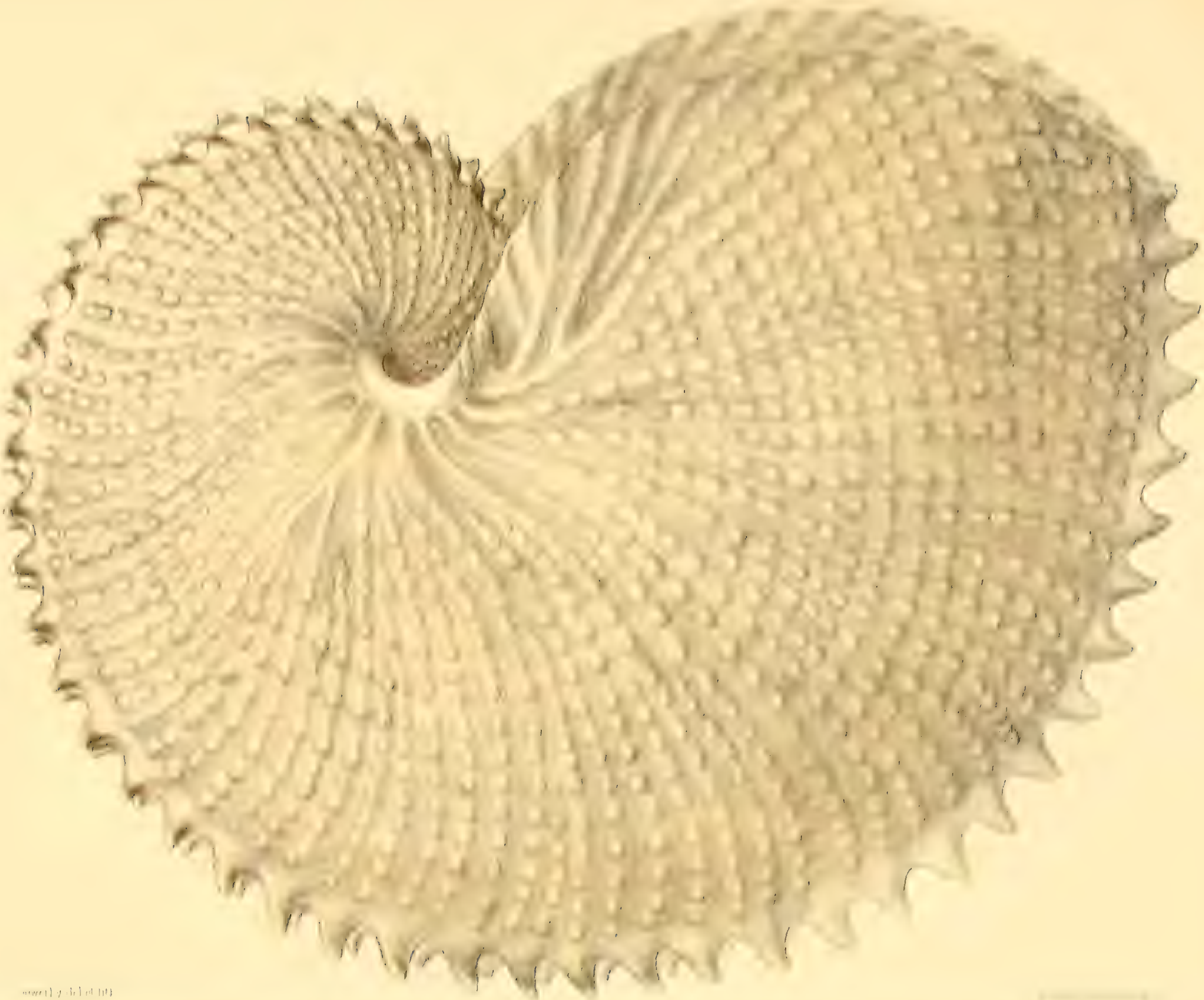
MONOGRAPH

OF THE GENUS

ARGONAUTA.

> "The Ocean-Mab, the fairy of the sea."
>
> *Byron.*

Argonauta Pl. I.



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ARGONAUTA.

Plate I.

Genus ARGONAUTA, *Linnæus.*

Testa navicularis, bicarinata, unilocularis, tenuis, papyracea, minutè granulata, spirâ discoideâ, in aperturam involutè immersâ, alba, fusco-flavescente sæpe tincta, carinâ versus spiram plus minus fumeo-nigricante; lateribus radiatim rugatis, rugis vel continuis vel nodatis, ad carinam in tuberculis plus minus conspicuè muricato-squamatis desinentibus.

Shell ship-shaped, double-keeled, one-chambered, thin, papyraceous, minutely granulated, spire discoid, involutely immersed in the aperture, white, often tinged with fuscous-yellow, keel smoky-black towards the spire; sides radiately wrinkled, wrinkles either continuous or noduled, terminating at the edges of the keel in more or less conspicuously prickly-scaled tubercles.

The shells of this genus being merely the egg-cradles of a Cuttle-fish, constructed only by the female for the purposes of oviposition, great inconvenience has arisen through naming them in the absence of the animal. Up to the present century the octopod or eight-legged Cuttle, one of the Polyps of Aristotle, usually found in these shells, was thought to be a parasite. But no one had determined the question. The shell was simply called by the early conchologists *Ovum Polypi* and *Domuncula Polypi.* Linnæus established the genus *Argonauta* for its reception, and it became known generally by the appellation of the Paper Nautilus. In 1817 some young specimens of the animal and shell, captured in the Gulf of Guinea by Mr. John Cranch, zoologist of the unfortunate Congo Expedition, were placed in the hands of Dr. Leach, of the British Museum. Convinced that the animal was no parasite, he described it in the 'Philosophical Transactions of the Royal Society' of that year as a new genus, *Ocythoë,* and his paper was accompanied by an engraving of a specimen in six different positions. The author was, however, mistaken in supposing that the parasitic nature attributed to the animal usually found in the Paper Nautilus had not been disproved. The calcifying functions of the hinder pair of legs, which become modified in the female into a pair of membranous webs, secreting the shell, had been well established by Cuvier in the 'Dictionnaire des Sciences Naturelles' of Paris, thirteen years before. The observations of Dr. Leach served, however, to revive an interest in the subject, and they have been followed by a series of most interesting experiments and researches on the part of M. Rang, MM. Férussac and D'Orbigny, M. Rafinesque, Madame Power, Professor Owen, and Mr. Arthur Adams. About twenty years since I had myself above a thousand specimens of *A. Argo,* many with their animals in spirits, placed in my hands by the Rev. L. B. Larking, who collected them during a temporary residence at Messina; and the specimens collected by Sir Edward Belcher and Mr. Arthur Adams during the voyage of the Samarang, afforded me further means of examination. "On our passage home across the South Atlantic," writes Mr. Arthur Adams, "I enjoyed numerous opportunities of observing the animals of *A. Argo* and *gondola* in the living state, specimens having been captured by us in large numbers by means of a trawl, as they came to the surface of the water at the decline of day in calm weather. Numbers of male Argonauts were taken by us, at the same time, without any shells; and this being the season of oviposition, may account for the females, in such a number of instances, being found embracing their calcareous shell-nests."

One of the most conspicuous features in the natural history of the Argonauts is their wide geographical distribution. *A. Argo* appears to range within an area of forty degrees on either side of the Equator in both hemispheres. The Mediterranean and the Indian, South Atlantic, and Pacific Oceans, are all recorded as habitats under our description of this species; and *A. tuberculosa* is recorded from the Moluccas, from Tasmania, and from Brazil. Several more species have been described than can, I think, on further research, be admitted. The seven enumerated by De Férussac and De Blainville are reducible to four; and six are the most that can even now be satisfactorily determined.

Species 1. (Mus. Cuming.)

ARGONAUTA TUBERCULOSA. *Arg. testâ orbiculari-involutâ, ventricosiusculâ, lateribus convexis, rugis undique nodoso-tuberculatis; carinâ latâ, tuberculis prominentibus, subdistantibus; auriculis contractis, interdum calloso-prolongatis.*

THE TUBERCLED ARGONAUT. Shell orbicularly involute, rather ventricose, sides convex, with the wrinkles nodosely tubercled throughout; keel broad, with the

April, 1861.

tubercles prominent and rather distant; auricles contracted, sometimes callously prolonged.

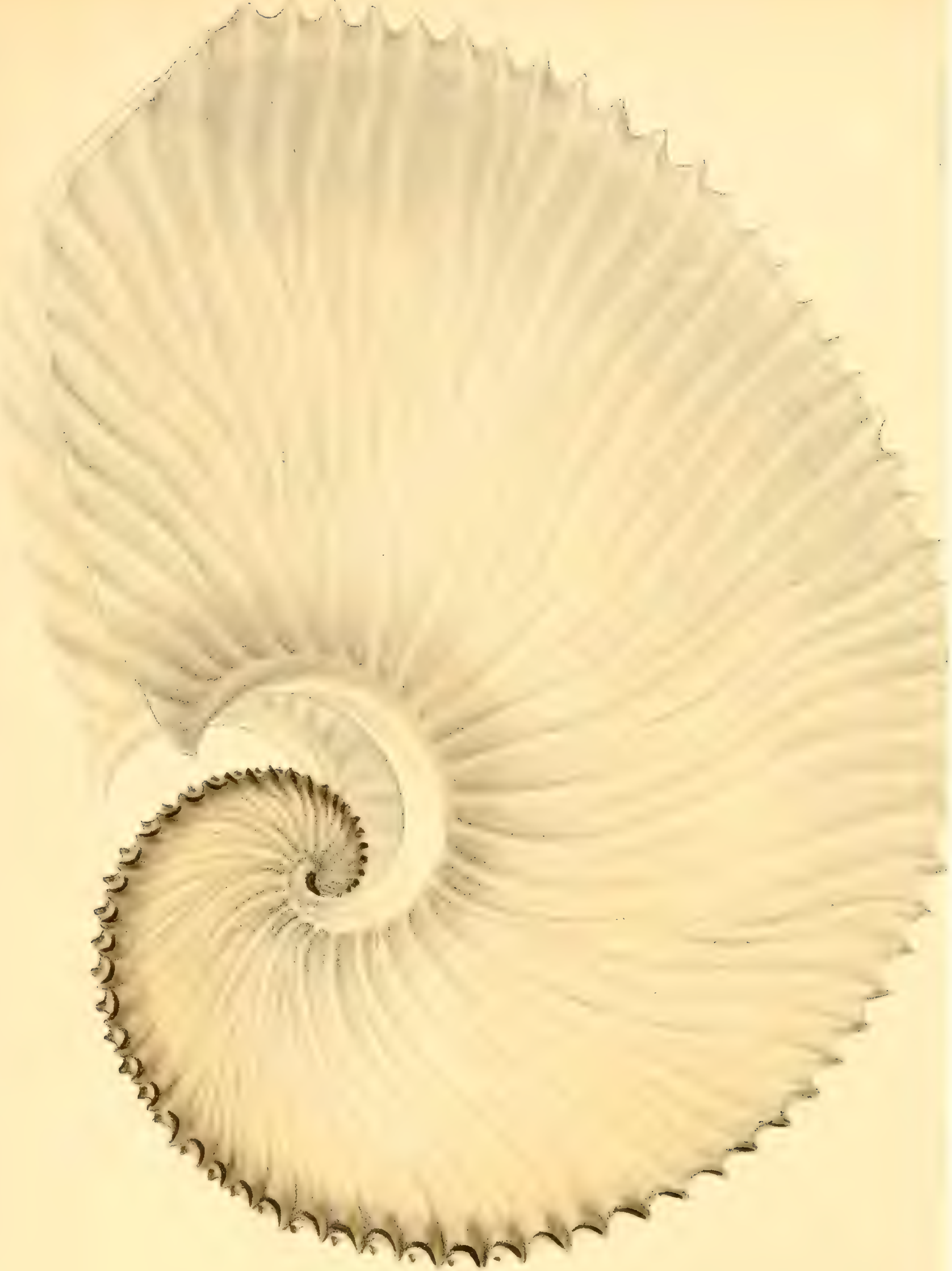
LAMARCK, Anim. sans vert. vol. xi. p. 357.

Argonauta Argo (*pars*), Linnæus.
Argonauta nodosa, Solander, MS.
Argonauta tuberculata, Shaw.

Hab. Moluccas, Tasmania, Brazil.

The characters of this species are well-defined, and exhibit little or no variation. Whether from the Moluccas, Tasmania, or Brazil, from each of which localities Mr. Cuming possesses specimens,—and it may have a still wider range of habitation,—the shell is of the same elegant orbicularly involuted form, with the sides ventricosely convex, contracted about the auricles, of which the callous margin is sometimes sinuously prolonged. The fine specimen figured in our Plate, in an uncleaned state, enveloped with a filmy yellowish tissue of animal matter, is from Tasmania.

Argonauta Pl. II.



ARGONAUTA.

Plate II.

Species 2. (Mus. Cuming.)

Argonauta Argo. *Arg. testâ transversè involutâ, lateribus modicè convexis, versus carinam angustè contractis, rugis gracilibus, lævibus, continuis; carinâ angustâ, tuberculis parvis, numerosis, approximatis; auriculis contractis.*

The Argo Argonaut. Shell transversely involute, with the sides moderately convex, narrowly contracted towards the keel, wrinkles slender, smooth, continuous; keel narrow, tubercles small, numerous, approximate; auricles contracted.

Linnæus, Syst. Nat. (Gmel. edit.) p. 336.

Cymbium maximum, Gualtierri.

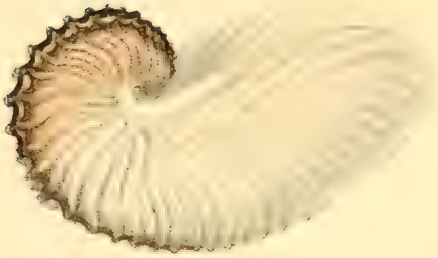
Argonauta maxima, De Blainville.

Testa juvenis. *Argonauta haustrum*, Dillwyn.

Hab. Indian, Pacific, and Atlantic Oceans. Mediterranean.

It will be seen by the foregoing synonymy that the colossal Indian Ocean *Argonauta Argo*, figured in the accompanying Plate, has been described as a species distinct from the original type of smaller dimensions inhabiting the Mediterranean. But this opinion has not been generally received. The truth appears to be that the animal to which this shell belongs is almost ubiquitous in its distribution, at least within forty degrees of either side of the Equator; and the shell, varying in size and general outline, retains all its specific characters in detail. The large specimen here represented was collected by Mr. Cuming, at the Philippine Islands, the specimen given in Plate III. Fig. 2 *c*, was taken at Venezuela, Central America, and that at Fig. 2 *d*, at Tahiti, both of which varieties come very near indeed to the well-known Mediterranean form of the species.

April, 1861.



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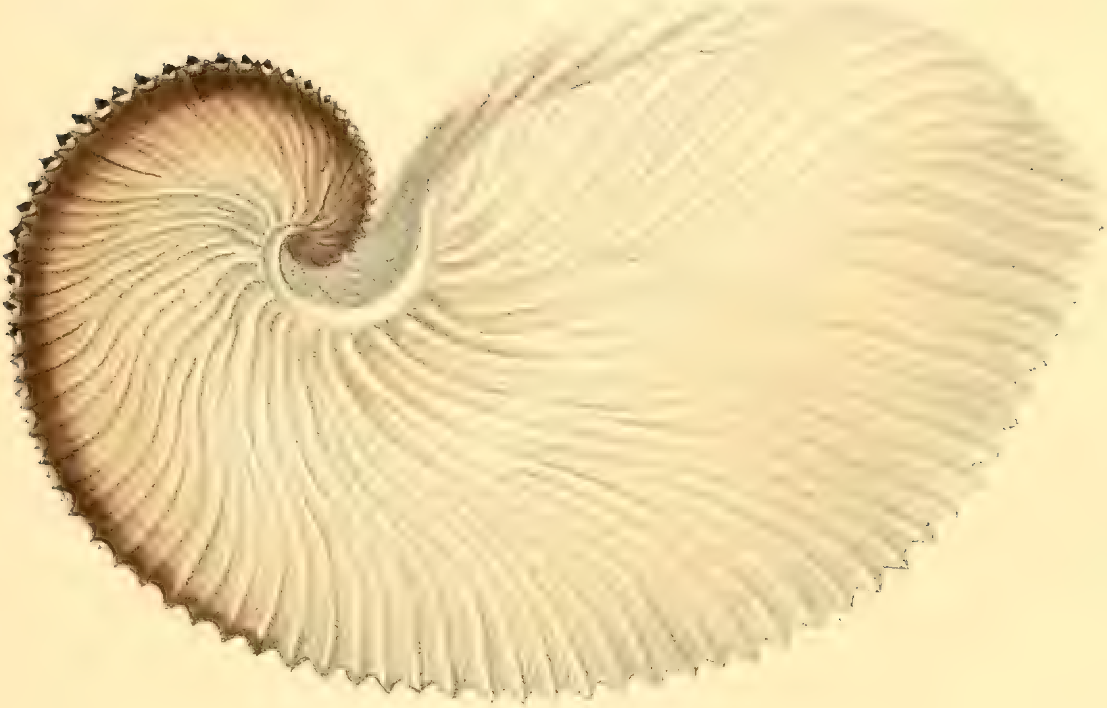
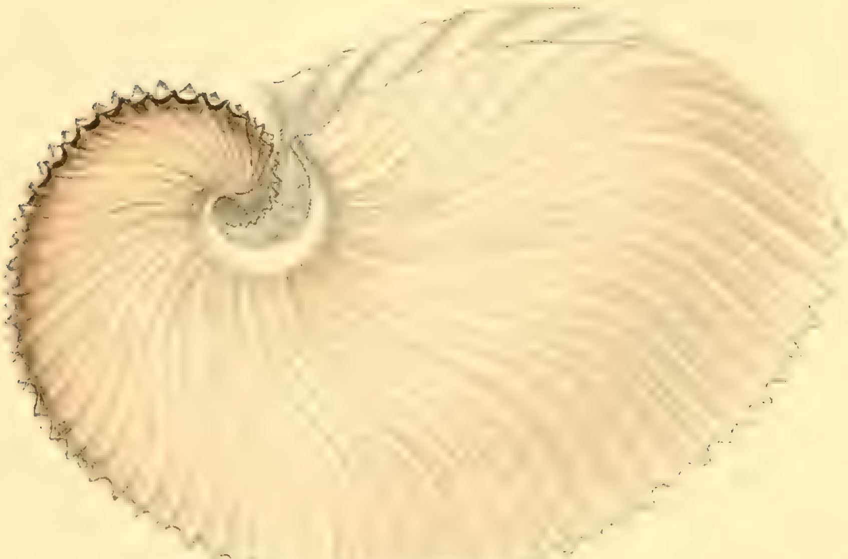




ARGONAUTA.

PLATE III.

Species 6. (Fig. 2 *b*, Mus. Cuming.)

ARGONAUTA GRUNERI. *Arg. testâ transversissimè involutâ, conspicuè granulatâ, lateribus subventricosis, rugis tumidiusculis, cito evanidis; carinâ latâ, medio regulariter nodosâ, marginibus vix tuberculatis; auriculis contractis.*

GRUNER'S ARGONAUT. Shell very transversely involute, conspicuously granuled, sides rather ventricose, wrinkles somewhat swollen and soon fading; keel broad, regularly nodose in the middle, edges scarcely tubercled; auricles contracted.

DUNKER, Nov. Conch. Second Series, p. 29. pl. 9. f. 1, 2.

Hab. Marquesas.

I had numbered the figure of this species 2 *b*, to indicate a variety of *Argonauta Argo*, but I incline to think, upon a more careful examination of several specimens in the collection of Mr. Cuming, that it is distinct. There is one very important difference between this and all the varieties of *A. Argo*. Instead of the keel being narrow and smooth on the area between the tubercles, it is broad, convexly swollen, and covered throughout with moderately developed wart-like nodules.

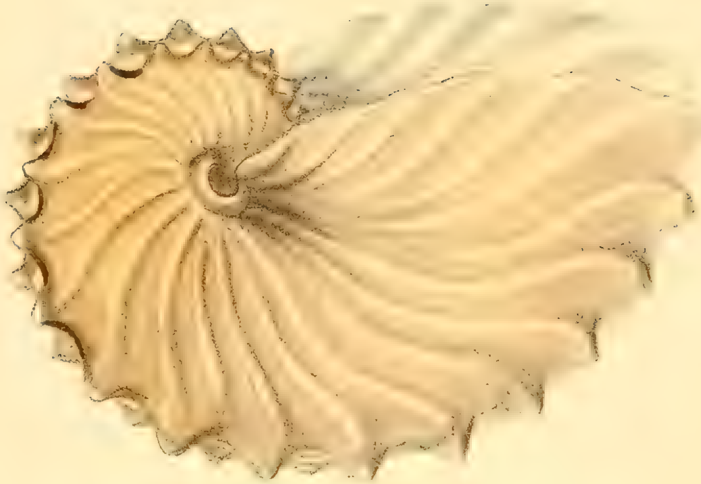
Species 2. (Fig. 2 *c*, Mus. Cuming.)

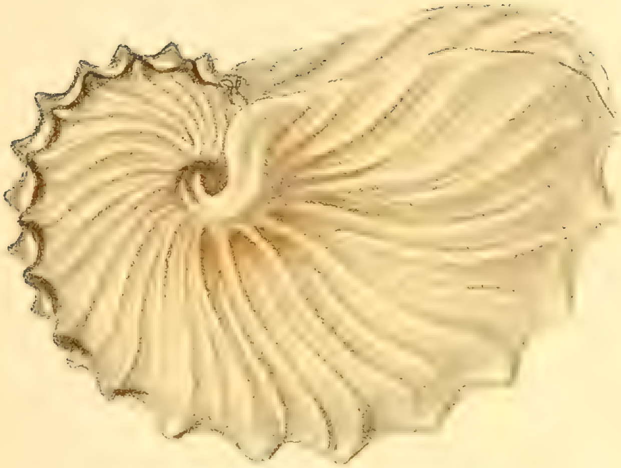
Argonauta Argo. A transversely involute form of the species, of which Mr. Cuming has three specimens from Venezuela. The shell has nothing to distinguish it from the Mediterranean form, of which specimens may be found involuted in an equally transverse manner.

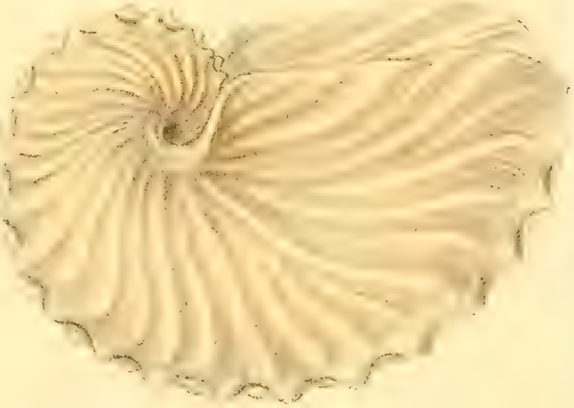
Species 2. (Fig. 2 *d*, Mus. Cuming.)

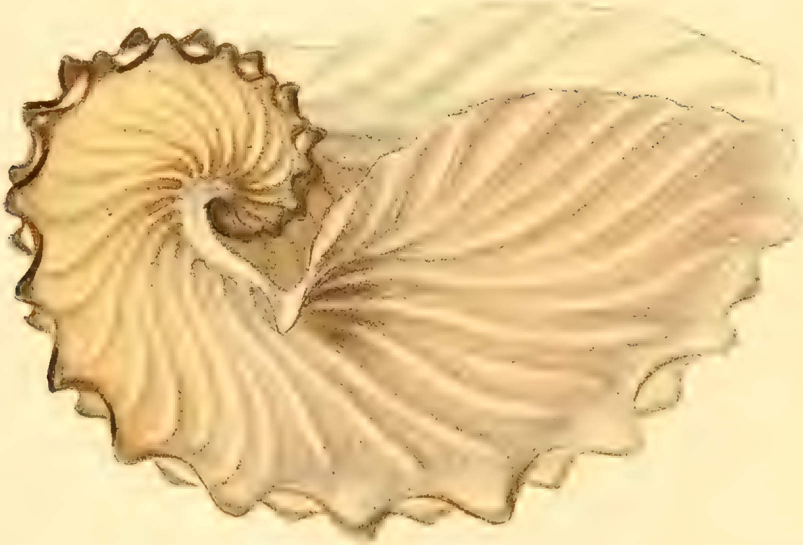
Argonauto Argo. A more rounded form of the species, of which specimens have been received by Mr. Cuming, from Mr. W. H. Pease, of the Sandwich Islands, collected by him at Tahiti.

April, 1861.









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Sowerby del et lith

Vincent Brooks, Imp

ARGONAUTA.

Plate IV.

Species 3. (Fig. *a*, *b*, Mus. Cuming.)

Argonauta gondola. *Arg. testâ semiorbiculari-involutâ, latè inflatâ, lateribus convexis, rugis validis, obliquis, pauciusculis, lævibus, alternis brevioribus; carinâ latiusculâ, tuberculis amplis, distantibus; auriculis exterius prolongatis.*

The gondola Argonaut. Shell semiorbicularly involute, broadly inflated, sides convex, wrinkles strong, oblique, rather few, smooth, the alternate ones shorter; keel rather broad, tubercles large, distant; auricles prolonged outwardly.

Dillwyn, Desc. Cat. of Shells, vol. i. p. 335.

Argonauta Kochianus, Dunker.

Hab. South Atlantic Ocean; Belcher. Philippines; Cuming.

This largely tubercled widely gaping species is frequently taken for *A. hians*, but the species are distinct, and this is the more gaping of the two. The auricles are sometimes expanded and twisted outwardly into lateral horns, but, as may be seen by the specimens of *A. gondola* figured, no reliance can be placed on this as a specific character. In that given at Fig. 3 *a*, the auricles are not horned at all, whilst in that given at Fig. 3 *b*, they are horned conspicuously. The same differences may be observed in specimens of *A. tuberculosa.*

The auricles of the Argonaut shell are the most variable part of its structure, depending, doubtless, very much in their formation and growth on the overlapping of the tentacles of the animal.

Species 4. (Mus. Cuming.)

Argonauta hians. *Arg. testâ semiorbiculari-involutâ, nitente-fulvâ, lateribus modicè convexis, rugis tumidiusculis, vix undulatis, alternatim brevioribus; carinâ latâ, tuberculis amplis, distantibus; auriculis simplicibus.*

The gaping Argonaut. Shell semiorbicularly involute, shining fulvous, sides moderately convex, wrinkles rather swollen, scarcely waved, alternately shorter; keel broad, tubercles large, distant; auricles simple.

Dillwyn, Desc. Cat. of Shells, vol. i. p. 334.

Argonauta nitida, Lamarck.

Argonauta raricosta, De Blainville.

Ocythoë Cranchii, Leach.

Hab. South Atlantic Ocean; Belcher.

The wrinkles are more faintly developed in this species than in the preceding, the keel is not so broad, and the tubercles are less prominent. The shell has, moreover, a fulvous, glazy appearance, which probably suggested the name of *nitida*, given to it by Lamarck. The Argonaut, animal and shell, described and figured under the name of *Ocythoë Cranchii* by Dr. Leach, in the 'Philosophical Transactions of the Royal Society' for 1817, from specimens collected by Mr. Cranch, in the Gulf of Guinea, is so immature in growth that it is not possible to decide with certainty whether it is the young of this or of the preceding species.

Species 5. (Mus. Cuming.)

Argonauta Owenii. *Arg. testâ semiorbiculari-involutâ, nitente-fulvâ, lateribus convexo-compressis, rugis prominentibus, undulatis, alternatim brevioribus; carinâ mediocri, conspicuè tuberculatis, tuberculis numerosis; auriculis simplicibus.*

Owen's Argonaut. Shell semiorbicularly involute, shining fulvous, sides convexly compressed, wrinkles prominent, waved, alternately shorter; keel middling, conspicuously tubercled, tubercles numerous; auricles simple.

Adams and Reeve, Moll. Voy. Samarang, p. 4. pl. 3. f. 2 *a* to *d*.

Hab. South Atlantic Ocean; Belcher. Moreton Bay, Australia; Strange. Philippines; Cuming.

The differences between adult specimens of this and the preceding species are not very perceptible, excepting that in *A. Owenii* the sides are more flatly compressed, and the aperture is consequently less gaping. But in an earlier stage of growth, as represented by the suite of specimens figured in the 'Mollusca of the Voyage of the Samarang,' it will be seen that the wrinkles are closer and more conspicuously developed, and the tubercles in which they terminate on the edges of the keel are consequently stronger and more numerous. Mr. Cuming possesses specimens in this state collected by Mr. Strange, at Moreton Bay, Australia, and by himself at the Philippine Islands.

April, 1861.

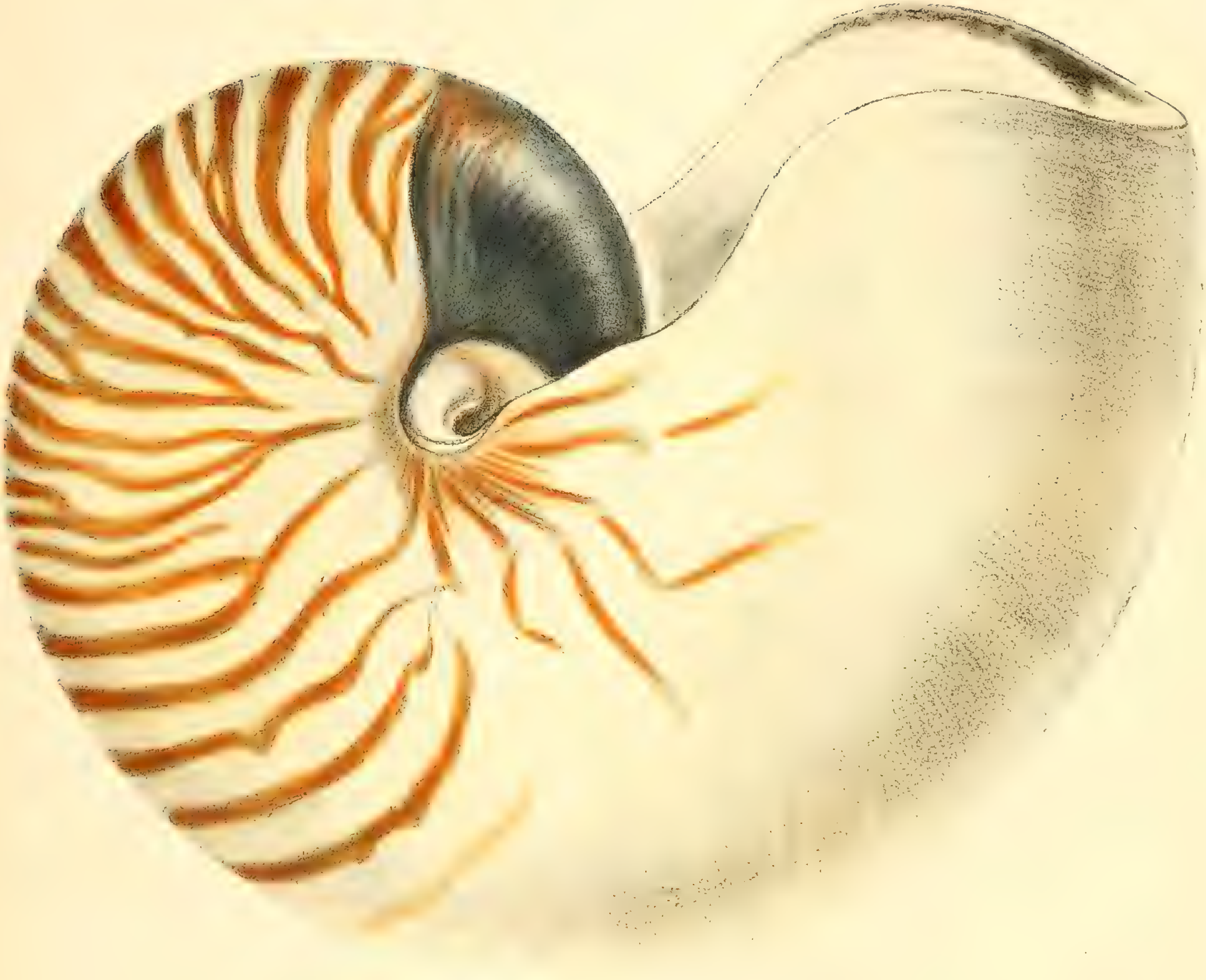
MONOGRAPH

OF THE GENUS

NAUTILUS.

"The Nautilus and the Ammonite
Were launched in storm and strife;
Each sent to float, in its tiny boat,
On the wild, wild sea of life.

"And each could swim, on the ocean's brim,
And anon, its sails could furl;
And sink to sleep in the great sea deep,
In a palace all of pearl."—*Richardson.*



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Sowerby, del. et lith.

Vincent Brooks, Imp.

NAUTILUS.

Plate I.

Genus NAUTILUS, *Aristotle.*

Testa discoidea, interdum umbilicata, intus margaritacea, extus opaco-lactea, posticè ferrugineo tincta et transversim flammata; polythalamia, septis concavis, medio tubo siphonali perforatis; anfractibus tribus, contiguis, spiraliter involutis, ultimo alios obtegente.

Shell discoid, sometimes umbilicated, pearly within, opake cream-colour without, stained and transversely flamed posteriorly with rust-colour, many-chambered, septa concave, perforated in the middle by a siphonic tube; whorls three, contiguous, spirally involuted, the last covering the others.

Two thousand two hundred years ago, during the glorious reign of Alexander, when Plato was lecturing at Athens, and the cities of Pompeii and Herculaneum were flourishing with the refinements of art, natural history was beginning to be studied as a science of observation by Aristotle. His area of research, so far as regarded marine animals, had been restricted to the basin of the Mediterranean, when the ambitious conqueror of Persia and India resolved to enlarge it. Alexander, we are told, wished to encourage his learned preceptor to write a History of Animals; "and the more effectually to assist him, he supplied him with eight hundred talents, and in his Asiatic expedition employed above a thousand men to collect animals either in fishing, hunting, or hawking, that were carefully transmitted to the philosopher." May it not have been on this occasion that Aristotle was furnished with the Nautilus of the southern Asiatic Islands? With the Argonaut of the Mediterranean he must have been already acquainted; and having the animals of both before him, he describes them with an accuracy that was not surpassed, until in 1828 a Nautilus was captured in Marekini Bay, at the island of Erromango, New Hebrides, by Mr. George Bennett, and was dissected by Professor Owen. "There are two kinds of Polypes (Cuttles) which are in shells," says Aristotle in his 'Historia Animalium;' "one has a shell (*Argonauta*) which is not naturally adherent to it, it feeds very frequently near the land, and being cast by the waves on the sand, the shell slips, and it dies; but the other (*Nautilus*) is in a shell in which it exists after the manner of a snail, and outwardly extends its arms." The only discovery of a living Nautilus during this long intervening period was made in the eighteenth century by Rumphius, a Dutch merchant and naturalist resident at Amboyna. Now, thanks to the exertions of Mr. Bennett, of Australia, and to the anatomical labours of Professors Owen and Valenciennes, and M. Van der Hoeven, the animal is not so uncommon, and both its organization and habits are fully known.

The *Nautilus* is the sole living representative, with a contiguously whorled shell, of the great extinct tribe of *Ammonites*. The animal is a Cuttle, fitting into the aperture of the shell; the outer portion encloses a well-developed head and pair of horny mandibles, some fifty or sixty labial tentacles, and upwards of thirty brachial tentacles, a pair of large eyes, and a number of delicate structures, comprising organs of smelling, hearing, etc., and over all is a capacious leathery hood or lid. The lower part of the body, enclosing the viscera in connection with the funnel or vent-tube, is enveloped by a mantle which secretes the shell, and is produced at the back into a fold overlapping the black convexity of the shell. Round the circumference of the abdominal portion of the animal is a muscular girdle attached to the shell, and connected to it at the bottom is a flexible cord, which passes into the siphonic tube of the chambers of the shell, reaching throughout its entire convolution.

Considerable light has been thrown on the habits and geographical distribution of the *Nautili* within the last few years by Dr. Bennett, of Australia. "The *N. Pompilius*, *macromphalus*, and *umbilicatus*," he says, "are the best-known species. The first species is the most common, and has the widest range; the second species is more limited in its range, and rarer; the third, although found in collections, is scarcer than the two preceding, and has a range peculiar to itself. The range of *N. Pompilius* embraces the islands of the Eastern Archipelago, Erromango, Aneitum, and other islands of the New Hebrides, and also the Feejee group. *N. macromphalus* is found about the Isle of Pines and New Caledonia; and the rare *N. umbilicatus* in the Solomon Archipelago, New Georgia, New Britain, New Ireland, and probably to the eastward of these groups of islands." No *Nautilus*, adds that assiduous observer, has been found at the Navigator group of islands.

The animal of *Nautilus*, hitherto so rare, is now found to be an article of food among the natives of the New Hebrides, New Caledonia, and Feejees. Dr. Bennett relates (Pro. Zool. Soc. 1859, p. 227), that when at Erromango he observed about the fires of the natives the remains of

Nautilus shells, and of horny mandibles, as if the animals had been used at a recent meal; and a lady residing at the island of Aneitum, of whom he requested a specimen of the animal, wrote: "I have been fortunate in procuring one so soon after I received your letter; it was cast on shore during a heavy gale, and found by one of our native servants. He was just in the act of putting it upon the fire for a meal, when one of the native girls from the Isle of Pines, knowing the value we set on them, stopped him. This will be an answer to your inquiry. The natives sometimes take them in their fish-falls, in from three to five fathoms water; the bait they use is the Sea-egg (*Echinus*). They are very fond of them. In some of the islands they make a kind of soup of them. These animals are very plentiful at Ware, an island about thirty miles from New Caledonia; and I have noticed at that place some difference in the shell" (*N. macromphalus* being found about that coast) "from the one we have at this place. I am acquainted with a person who was wrecked at that island, and used to have them curried frequently: he says they taste like whelks when roasted. I once saw one floating past our residence near the beach at the Isle of Pines."

A further communication from Dr. Macdonald, who visited the western Polynesian islands in H.M.S. 'Herald,' is also curiously illustrative of a mollusk, the history of which has so long remained in obscurity. "The Feejeans esteem the Pearly Nautilus highly as an agreeable viand, and their mode of capturing it, for the embers or for the pot, is not a little interesting. When the water is smooth, so that the bottom at several fathoms of depth, near the border of the reef, may be distinctly seen, the fisherman in his little frail canoe scrutinizes the sands and the coral masses below to discover the animal in its favourite haunts. The experienced eye of the native may probably encounter it in its usual position, clinging to some prominent ledge, with the shell turned downwards, and preparations are accordingly made for its capture. The tackle consists, first, of a large round wicker-work basket, shaped very much like a cage rat-trap, having an opening above, with a circlet of points directed inwards, so as to permit of entry, but preclude escape; secondly, a rough piece of native rope of sufficient length to reach the bottom; and, thirdly, a small piece of branched wood, with the branches sharpened to form a sort of grapnel, to which a perforated stone is attached, answering the purpose of a sinker. The basket is now weighted with stones, well baited with boiled cray-fish (*Palinurus*), suggested no doubt by the large quantity of the fragments of Crustacea usually to be found in the crop of the Nautilus, and then dropped gently down near the victim. The trap is now either closely watched, or a mark is placed upon the spot, and the fisherman pursues his avocations on other parts of the reef, until a certain period has elapsed, when he returns, and in all probability finds the Nautilus in his cage feeding upon the bait. The grapnel is now carefully let down, and having entered the basket through the opening on top, a dexterous movement of the hand fixes one or more of the points or hooks, and the prize is safely hoisted into the canoe. Thus we observe that, although it has been a matter of doubt if the animal could be so silly as to run into the nets of the fishermen, as related by Rumphius, whose account was supposed to be exaggerated, yet it is now found that the *Nautili* are in reality stupid enough to run into the well-baited baskets of the Feejeean and Aneitum fishermen."

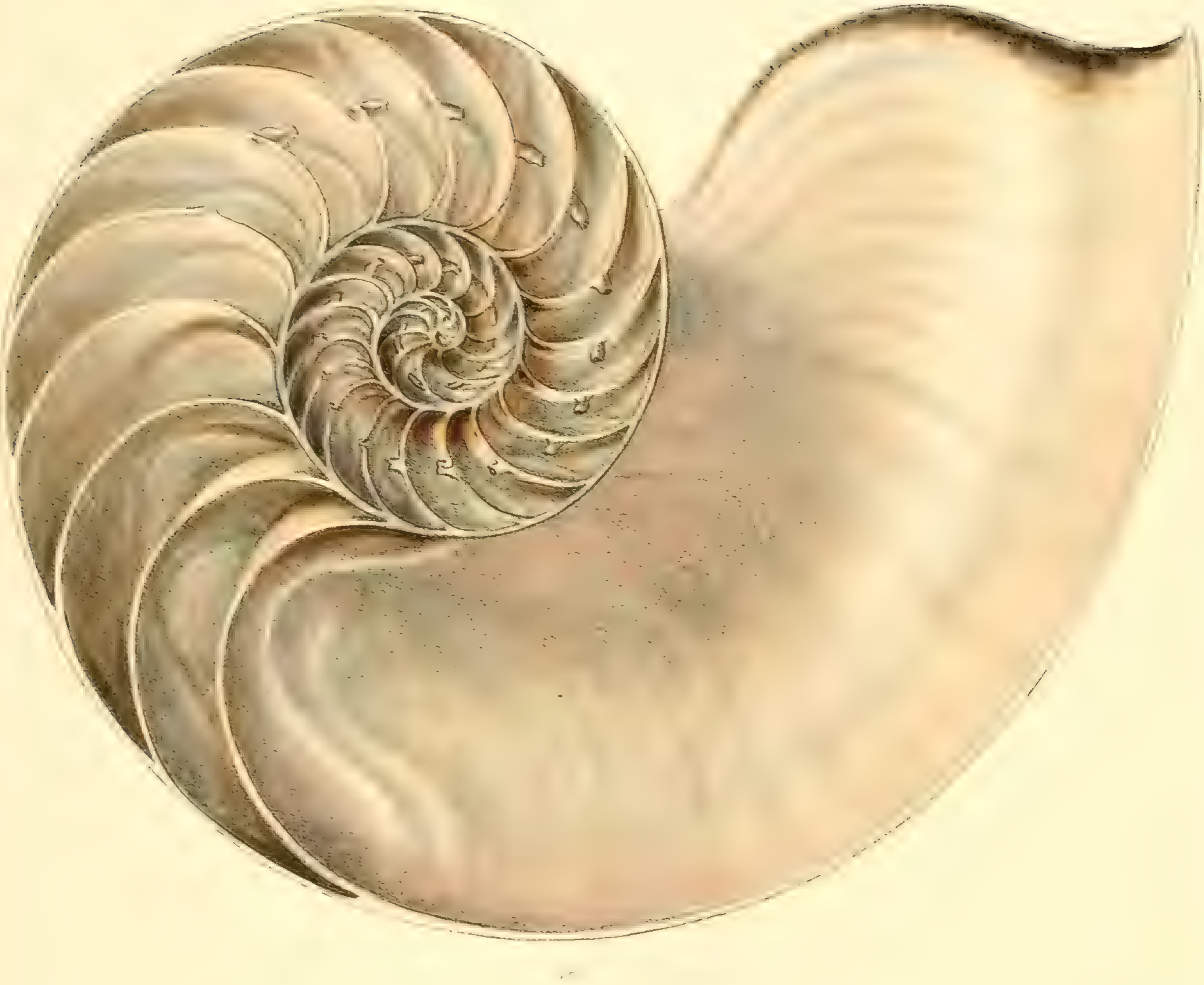
Species 1. (Mus. Cuming.)

Nautilus Pompilius. *Naut. testâ suborbiculari, lævi, imperforatâ, albidâ, posticè transversim flavescente-ferrugineo strigatâ, strigis latiusculis, distantibus.*

The Pompilius Nautilus. Shell nearly orbicular, smooth, imperforated, whitish, posteriorly transversely streaked with yellowish-rust, streaks rather broad, distant.

Linnæus, Syst. Nat. p. 1161.
Nautilus ambiguus, Sowerby.
Hab. Eastern Archipelago, New Hebrides, Feejees, etc.

This species, the oldest, most abundant, and most widely distributed, differs from the rest in not being umbilicated, the place of the umbilicus being overlaid with a deposit of callous pearl-matter.



NAUTILUS.

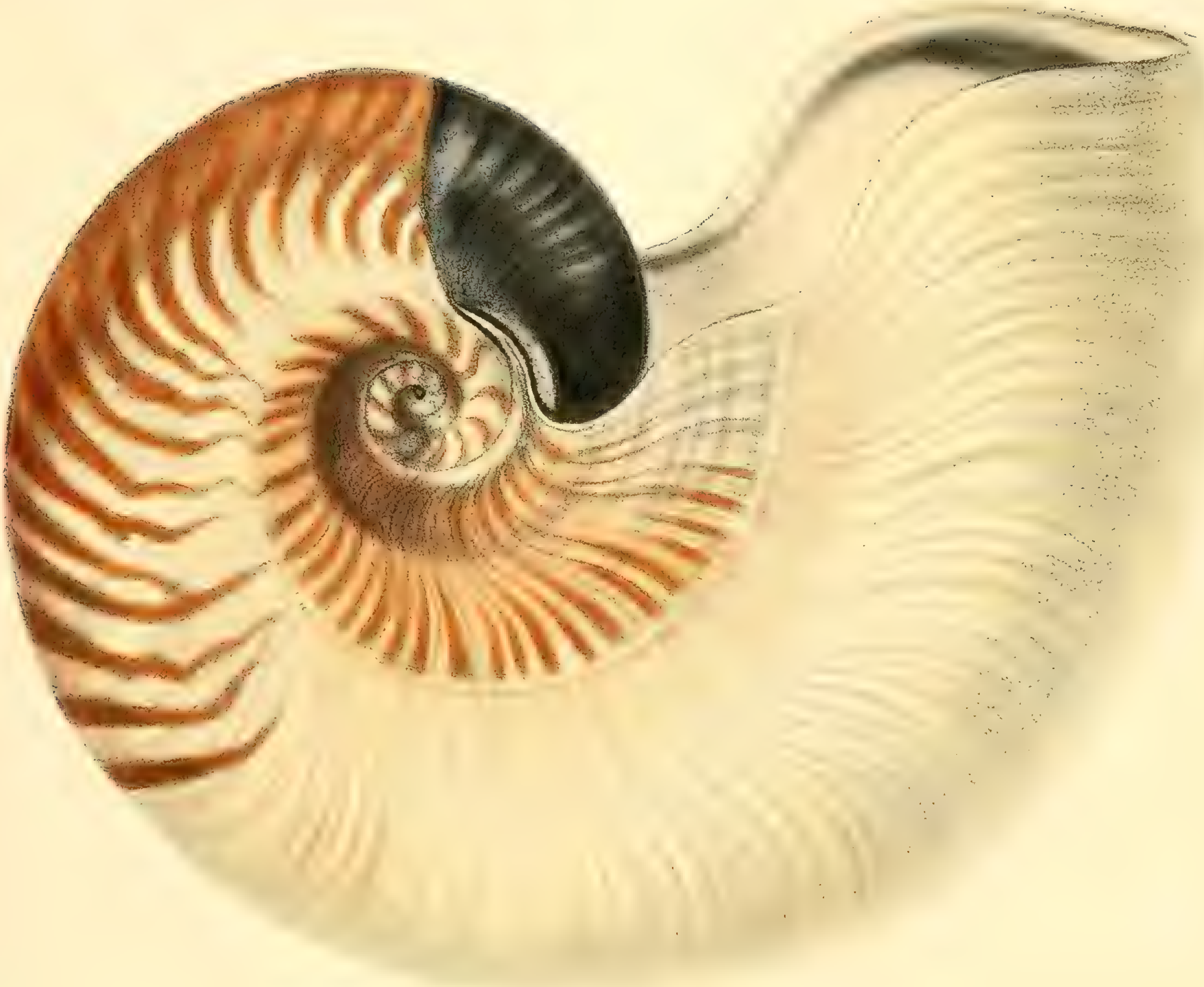
PLATE II.

Fig. 1 *b*. (Mus. nostr.)

NAUTILUS POMPILIUS. A section showing the chambered interior and siphonic tube. The *Nautilus* shell, it may be observed, is composed of three contiguous, rapidly enlarging whorls, convoluted in a discoid manner round a nucleus, which leaves an umbilical orifice perforating the centre. In *N. Pompilius* the umbilicus is concealed from view when the shell arrives at maturity, by an overlaying of callous pearly matter; but in the other species it is exposed in the adult. When the shell is held before the light, the observer may clearly see through the umbilicus. The interior of the shell is partitioned into from thirty to five-and-thirty chambers, and the partitions or septa are concave, perforated in the middle by a narrow siphonic tube. What, then, are the uses of these chambers, and of this siphonic tube? The tube encloses a ligament, the dried remains of which may often be seen in sections, especially in the small central chambers, passing through the entire spiral, and attached to the body of the animal. Some writers are of opinion that the septa being formed periodically, the animal slips its muscular attachment at such intervals, and lowers itself, as it were, to the distance required for the formation of another chamber by a dilation of the ligament. The impression of the muscular girdle may be seen in the accompanying figure at the bottom of the outer porch of the shell, and traces of the attachment from whence it has periodically slipped are visible in the previously formed chambers. Other writers incline to the belief that the muscle of attachment grows only in front, and wastes behind, and is always moving forward during the period of growth, except at the intervals of the formation of the septum.

The use of the chambers is also a matter of speculation. One thing is certain; they can have no hydrostatic function for the purpose of enabling the animal to dive into the depths of the sea or rise to its surface. They are most probably air-chambers destined to assist the specific gravity of the animal. The natural position of the *Nautilus*, when crawling on the bed of the ocean, at a depth, probably, of from twenty to thirty fathoms, is, as in other Cuttles, with the head downwards, the shell is accordingly uppermost, and the chambers containing nitrogen gas serve, doubtless, to buoy it up. If the animal enlarges the growth of its shell while in this position, periodically slipping its muscular belt, the shell would naturally have a tendency to coil in the form of a disk; and the air-chambers would increase in size to meet the increasing pressure of the surrounding element, arising from the animal's increase of bulk. It should be noticed that the siphonic tubes of the last four chambers are not seen in the specimen figured, owing to a defect in the cutting. Being cut a little obliquely, they have been carried away in the opposite half.

June, 1861.



Sowerby, del. et lith.

Vincent Brooks, Imp.

NAUTILUS.

Plate III.

Species 2. (Mus. Cuming.)

Nautilus scrobiculatus. *Naut. testâ suborbiculari, lævi, ad latera concentricè plicato-corrugatâ, perampliter spiraliter umbilicatâ, albidâ, posticè transversim ferrugineo strigatâ, strigis latiusculis, subremotis.*

The excavated Nautilus. Shell nearly orbicular, smooth, concentrically plicately wrinkled at the sides, very largely spirally umbilicated, whitish, posteriorly transversely streaked with rust, streaks rather broad and somewhat distant.

Solander, MS. Portland Cat. n. 3653. Dillwyn, Cat. vol. i. p. 339.

Nautilus crassus umbilicatus, Chemnitz.

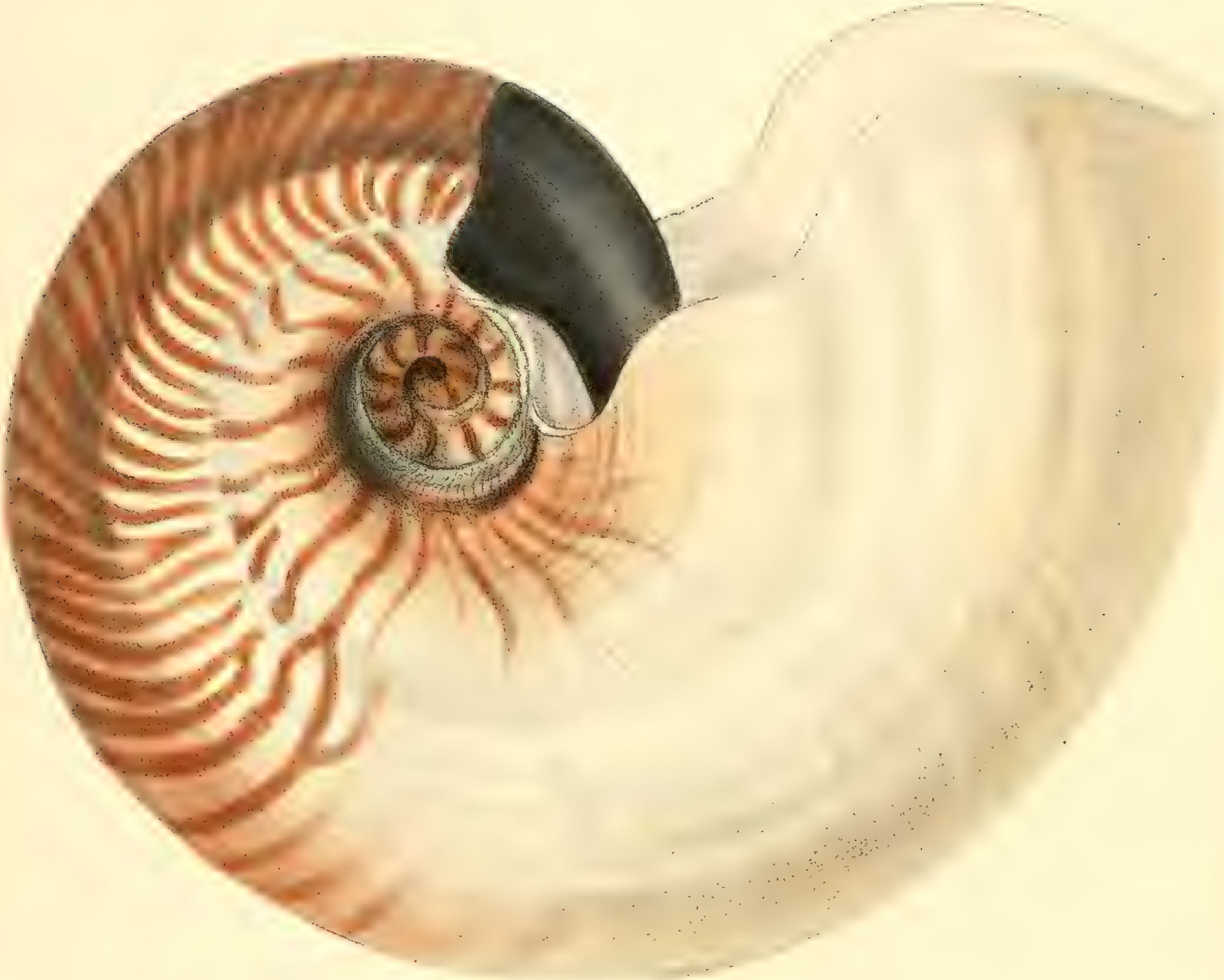
Hab. New Ireland.

It has been shown by Dr. Gould, of Boston, United States (Pro. Zool. Soc. 1857, p. 20), that under the old name, *N. umbilicatus*, two species have been confounded. "In looking over the shells of a dealer in Boston, U. S. A.," says that accomplished naturalist, "I observed three specimens of an umbilicated Nautilus which struck me as differing essentially from the shell commonly known as *N. umbilicatus*. A more careful examination satisfied me that they were quite distinct; and I made out a comparative description of them, intending to designate the newly-observed one by the name *texturatus*, on account of its finely reticulated surface. But on referring to the several figures of *N. umbilicatus*, I found that the figure of Lister, which represents the shell originally named *umbilicatus*, presented all the characteristics of the reticulated shell, while all other figures represented the smooth shining shell ordinarily bearing that name. From both the descriptions and figures of authors I am led to believe that the shell originally observed by Lister has not been recognized by conchologists since his day. Every writer except Favanne expressly speaks of his shell as smooth (*lævis, glatte*), and his figure clearly refers to the common shell. On the supposition, then, that these are two distinct species, it is proper to restrict the term applied by Lister to the shell represented by him, and to substitute another for the shell ordinarily named *umbilicatus*. The term *scrobiculatus*, indicated in manuscript by Solander, and adopted by Dillwyn, and which has been placed by others as a synonym, may be appropriately restored to this species."

The well-known *N. scrobiculatus* differs from the rarer *N. umbilicatus*, the figure of which, in the next Plate, is drawn from one of Dr. Gould's Boston dealer's specimens, chiefly in being smooth, in being more or less plicately wrinkled concentrically, and in having the painted streaks larger, more distant, and of a paler rust-colour.

June, 1861.

Nautilus Pl. IV.



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Vincent Brooks, Imp.

NAUTILUS.

Plate IV.

Species 3. (Mus. Cuming.)

Nautilus umbilicatus. *Naut. testâ suborbiculari, ventricosâ, striis confertis spiralibus et concentricis minutè flexuosis, undique granoso-reticulatâ, ad latera subplanulatâ, perampliter spiraliter umbilicatâ, marginibus umbilicorum subangulatis; albidâ, rufescente-ferrugineo posticè transversim strigatâ, strigis subangustis, numerosis, confertis.*

The umbilicated Nautilus. Shell nearly orbicular, ventricose, granosely reticulated throughout with minutely flexuous spiral and concentric striæ, rather flat at the sides, very largely spirally umbilicated, edges of the umbilicus rather angled; whitish, posriorly transversely streaked with reddish-rust, streaks rather narrow, numerous, close-set.

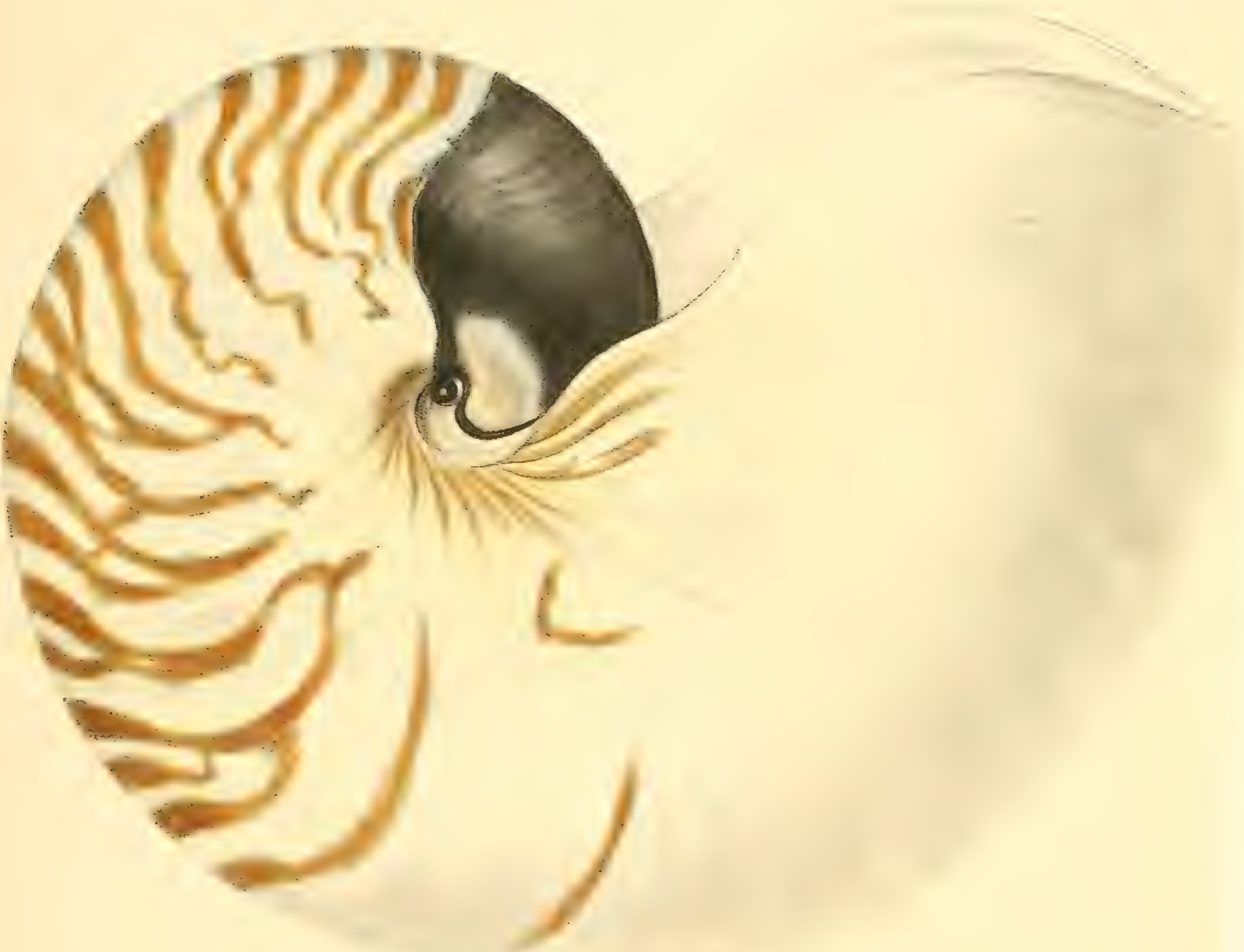
Lister, Conch. pl. 552. f. 4.

Hab. Solomon Islands, New Ireland, etc.

The shell here figured is that described by Dr. Gould in the Proceedings of the Zoological Society for 1857, p. 21, as being the best of three observed by him in looking over the stores of a dealer in Boston, U. S. A., differing from the shell commonly known as *N. umbilicatus.* Having identified it with the original *N. umbilicatus* of Lister, Dr. Gould proceeds to show that it is more ventricose, that is to say, broader across than the ordinary form represented in the preceding Plate, with the sides flattened towards the umbilicus, so as to give a more angular character to the inner excavation and edges of it, whilst the surface is sculptured throughout with a minutely flexuous reticulation of granulated spiral and concentric striæ. The painted streaks are, moreover, narrower, closer, and of a darker red rust-colour.

Dr. Macdonald, of H.M.S. Herald, on his return from an expedition among the islands of Western Polynesia, remarked, in a letter to Dr. Bennett, the eminent Australian naturalist (Pro. Zool. Soc., 1859, p. 226), "The sculpturing on *N. umbilicatus* is very distinctly marked on the external surface of the shell, differently from what is observed either in *N. Pompilius* or *N. macromphalus*, and forming one of its distinctive characters."

June, 1861.



NAUTILUS.

Plate V.

Species 4. (Mus. Cuming.)

Nautilus stenomphalus. *Naut. testâ suborbiculari, lævi, peranguste umbilicatâ, albidâ, posticè transversim flavescente-ferrugineo strigatâ, strigis latiusculis, distantibus.*

The narrowly umbilicated Nautilus. Shell nearly orbicular, smooth, very narrowly umbilicated, whitish, posteriorly transversely streaked with yellowish rust, streaks rather broad, distant.

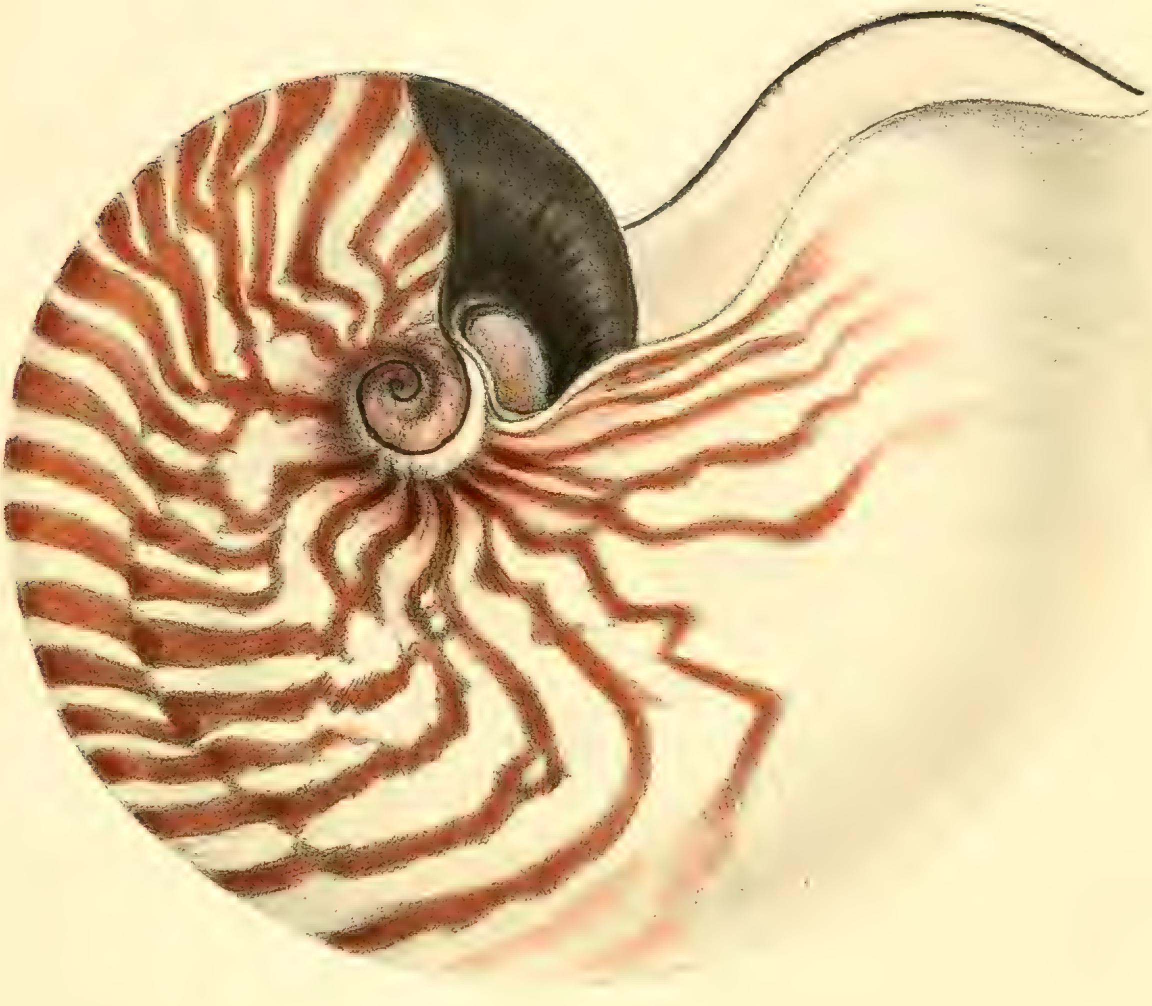
Sowerby, Thesaurus Conch. vol. i. p. 469. pl. 97. f. 3.

Hab. Eastern Archipelago.

I adopt this species of Mr. Sowerby, as it is very generally acknowledged, but feel rather inclined to doubt whether it is anything more than a *N. Pompilius*, in which the deposit of callous pearly matter has been insufficient to cover the place of the umbilicus. In all other respects the species are identical. The umbilicus is of the simplest kind, without any characteristic excavation, and if the pearly deposit, which is formed on either side of the involute spire, were a little more spread, it would be concealed from view.

June, 1861.

Nautilus Pl. VI.



NAUTILUS.

Plate VI.

Species 5. (Mus. Cuming.)

Nautilus macromphalus. *Naut. testâ suborbiculari, lævi, subampliter excavato-umbilicatâ, albidâ, castaneo-ferrugineâ, profusè transversim strigatâ, strigis latiusculis.*

The deeply umbilicated Nautilus. Shell nearly orbicular, smooth, rather largely excavately umbilicated, whitish, profusely transversely streaked with chestnut-rust, streaks rather broad.

Hab. Isle of Pines and New Caledonia; Bennett.

A well-marked species, of uniformly smaller size than the rest. The umbilicus is largely excavated, but not spirally angulated, as in *N. scrobiculatus* and *umbilicatus*. The painted rays are invariably more numerous, and of a darker chestnut hue. Dr. Bennett mentions that a lady residing at the Isle of Pines sent him to Sydney, at his request, a fine specimen, with the animal. She informed him that the natives readily procured them by diving; and soon after sent him a second specimen, both of which he placed in the Australian Museum.

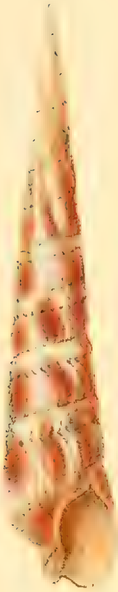
June, 1861.

MONOGRAPH

OF THE GENUS

TEREBRA.

"Hie therefore, Robin, overcast the night;
The starry welkin cover thou anon
With drooping fog as black as Acheron;
And lead these testy rivals so astray,
That one come not within another's way."
Shakspeare.



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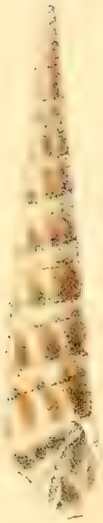

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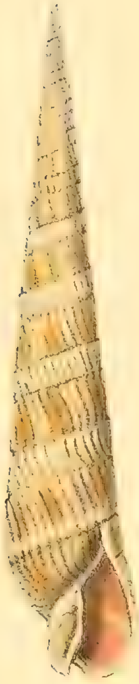

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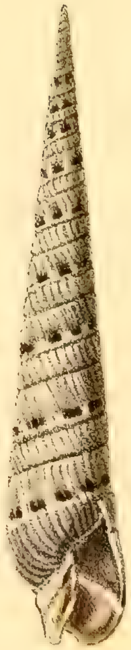

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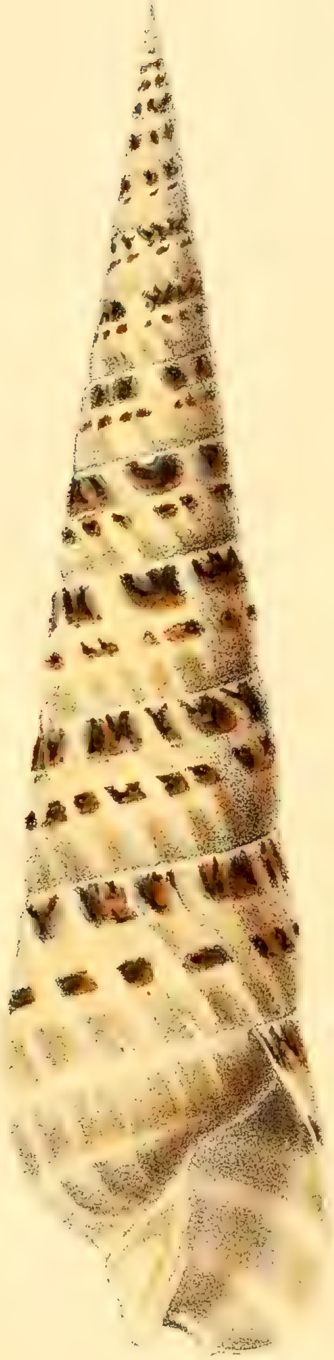

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Sowerby, del. et lith.

Vincent Brooks, Imp.

TEREBRA.

PLATE I.

Genus TEREBRA, *Bruguière.*

Testa elongato-subulata, plerumque acutissimè turrita, profusè colorata, sæpissimè densè exsculpta, ad basin sinuata, anfractibus angustis, numerosissimis, plano-convexis. Apertura parva, labro simplici, nunquam reflexo. Operculum parvum, corneum.

Shell elongately subulate, mostly very sharply turreted, profusely coloured, and often very elaborately sculptured, sinuated at the base, whorls narrow, very numerous, flatly convex. Aperture small, lip simple, never reflected. Operculum small, horny.

The genus *Terebra* is one of those well-defined groups of mollusks that cannot easily be confounded with any other. The shell, which has always had great attractions for the collector, is of a long, tapering, needle-like growth, like that of *Turritella*, but it is conspicuously sinuated at the base, and has a well developed tortuous columella. Whilst *Turritella* may be likened to a long drawn out *Turbo*, *Terebra* may be regarded as a similarly elongated *Buccinum*, and it has a more highly decorated and a more elaborately sculptured shell.

The animal of *Terebra*, as may be gathered from the very restricted proportions of the shell, is limited in size, the head and tentacles are small, and the entire mass, so far as it is exserted from the aperture, rarely extends beyond a tenth of the length of the shell. But although the animal is cumbered with a shell ten times the length of its exserted body, it is not of the same sluggish character as another turreted genus, *Mitra*. The shell of *Terebra* is not of such overbalancing proportions; it is not so heavily weighted in the middle as in *Mitra;* it is more symmetrically acuminated; the weight is chiefly at the base, and the animal obtains a facility of locomotion which enables it to move, and yet sustain its shell in a sloping or comparatively erect position.

The species of the genus were ably monographed by Mr. Hinds, in 1846, but many new ones having been accumulated since that period, the genus was again monographed, at Mr. Cuming's suggestion, by M. Deshayes, in 1857–9. M. Deshayes was induced to undertake the investigation of the genus under circumstances hardly favourable to the proper discrimination of the species. Specimens were transmitted to him in Paris, from the Cumingian collection, and his means of comparison with the types of Mr. Hinds' species being necessarily limited, many that were already named were described by him as new, and many were described by him as new, that a more extended series of specimens would have shown to be merely varieties. Out of ninety-three new species added to the genus on this occasion by M. Deshayes, I reject forty-one; though in doing so I find myself in a position of rivalry with a naturalist whose opinions I hold to be, of all conchologists living, the most entitled to respect. I reject also nine of Mr. Hinds' species, as well as some of Dr. Gray's and all of Mr. Carpenter's and M. Lorois'.

My own means of comparison have been favoured, through the liberality of my colleagues both at home and abroad, in a manner more advantageous. Out of 221 species cited by M. Deshayes in his recent memoir, entitled 'A General Review of the Genus *Terebra*' (Pro. Zool. Soc. 1859, p. 270), I have before me the original types and series of types of 214. They are from the collections of Mr. Cuming, M. Deshayes, Dr. Gray, Mr. Taylor, Mr. Metcalfe, M. Crosse, and M. Lorois. Of two species, *T. tessellata*, Gray, and *T. pulchra*, Hinds, the types are in the British Museum. These 214 species I reduce in the manner shown in the following monograph to 149, rejecting 65 as synonyms; and I bring the number up to 155 by describing 6 as new. The 7 species of which I have not been able to obtain specimens are four —*T. eburnea*, *Belcheri*, *decussata*, and *subdivisa*—described by Dr. Philippi in the 'Zeitschrift,' and three—*T. bicincta*, *tuberosa*, and *amanda*—described by Hinds, of which the types are either lost or have been transferred to other species. Un-illustrated monographs, in which the species of previous authors are cited without an actual comparison of the original types, are valuable aids to research; but the real test of a critical investigation of species, is to produce a drawing of the object. All the figures of this monograph are drawn from the types themselves, and no previously described species is quoted as a synonym except as resulting from an actual comparison with the types.

The *Terebræ* inhabit chiefly the eastern world, though many species of great interest abound on the shores of California and Central America: they are confined to tropical and subtropical waters. There is no *Terebra* so remote from the Equator as the Mediterranean, excepting a small buccinoid species, *T. Cosentini*, reported on somewhat doubtful evidence to have been collected in the Bay of Naples, and one or two even smaller species, collected in about the same latitude of the southern hemisphere, at Tasmania.

Species 1. (Mus. Cuming.)

Terebra nebulosa. *Ter. testâ acutè turritâ, aurantio-rufâ, albo ampliter tessellato-nebulosâ, anfractibus longitudinaliter plicatis, plicis obtusis, approximatis,* *corrugato-arcuatis, transversè striato-sulcatis, sulco unico conspicuo pertuso infra suturas; aperturâ elongato-ovatâ, columellâ contracto-contortâ.*

The clouded Terebra. Shell sharply turreted, orange-red, largely tessellately clouded with white, whorls longitudinally plicated, plaits obtuse, approximated, corrugately arched, transversely striately grooved, with a single conspicuous pricked groove below the suture, aperture elongately ovate, columella contractedly twisted.

Sowerby (not of Kiener), Tankerville Catalogue, App. p. 25.

Hab. Zanzibar, East Africa (in sandy mud, in deep water); Thorne.

This species may be readily distinguished by its tessellated clouding of milk-white upon a uniform orange-red ground, which very little varies.

Species 2. (Mus. Cuming.)

Terebra consors. *Ter. testâ modicè subulatâ, albidâ, flammis fulvo-spadiciis latis pallidè coloratâ, anfractibus subplanulatis, supernè obsoletè plicato-crenulatis, deinde sulco impresso cingulatis; aperturâ breviusculâ, ad basin subeffusâ, columellâ brevi, subrectâ.*

The consort Terebra. Shell moderately subulate, white, faintly coloured with broad fulvous-drab flames, whorls rather flattened, obsoletely plicately crenulated round the upper part, then encircled by an impressed groove; aperture rather short, a little effused at the base, columella short, nearly straight.

Hinds, Pro. Zool. Soc. 1843, p. 150.

Terebra virginea, Deshayes.

Terebra glabra, Deshayes.

Hab. Tahiti, Society Islands.

M. Deshayes' *T. virginea* and *glabra*, described from single specimens in the Cumingian collection, are worn, discoloured *T. consors*. There are traces in both of the plicated crenules and of the fulvous-dark spots of *T. consors*, neither of which indications of character are depicted in the figures of the 'Journal de Conchyliologie.'

Species 3. (Fig. 3 *a* and 3 *b*, Mus. Cuming.)

Terebra duplicata. *Ter. testâ acutè subulatâ, fulvo-griseâ, nunc pallidâ, nunc castaneo tinctâ, fasciâ angustâ albidâ cinctâ, maculis purpureis supra fasciam vittatâ, anfractibus planatis, supra sulco conspicuo divisis, longitudinaliter acutè sulcatis, plicis intermediis confertis et planatis; aperturâ subangustè oblongâ, columellâ crassè contortâ.*

The duplicate Terebra. Shell sharply subulate, fulvous-grey, sometimes pale, sometimes chestnut-stained, encircled with a narrow white band, filleted over the band with purple spots, whorls flattened, longitudinally sharply grooved, the intermediate plaits close set and flattened, whorls flattened, divided round the upper part by a conspicuous groove; aperture rather narrowly oblong, columella thickly twisted.

Buccinum duplicatum, Linnæus, Syst. Nat. p. 1206.

Terebra chalybeus, Martini.

Terebra Lamarckii, Kiener.

Terebra Reevei, Deshayes.

Hab. Zanzibar, China, Moluccas, Madagascar, etc.

Of this species there are many varieties, according to the extent and peculiarity of its geographical range; and, as in many other species of the genus, the shell is not always composed of the same number of whorls. It varies also in being stouter or more acicular, according to circumstances. *T. Lamarckii* is the spotted variety represented at Fig. 3 *b*; and *T. Reevei* is a delicate transparent colourless variety from the Moluccas.

Species 4. (Mus. Cuming.)

Terebra maculata. *Ter. testâ obeso-subulatâ, solidâ, ponderosâ, fulvescente, spadiceo fasciatim tinctâ, maculis purpureo-fuscis sublacteis bifasciatâ, quarum superioribus majoribus, anfractibus planatis, lævibus, nitentibus, primis ad dimidium inferiorem obliquè crebricostatis; aperturâ oblongâ, columellâ parum contortâ.*

The spotted Terebra. Shell stoutly subulate, solid, heavy, yellowish, stained in a banded manner with fawn-colour, encircled with two bands of milky purple-brown spots, of which the upper are the larger, whorls flattened, smooth, shining, the first obliquely closely ribbed on the lower half; aperture oblong, columella but little twisted.

Buccinum maculatum, Linnæus, Syst. Nat. p. 1205.

Acus columna Trajana, Humphreys.

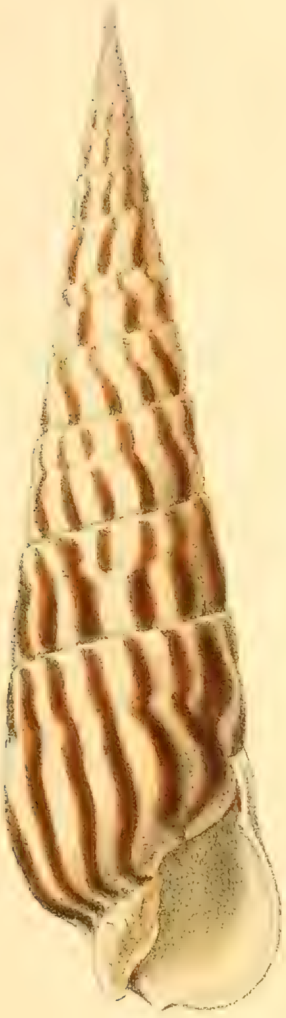
Terebra maculata, Lamarck.

Subula maculata, Blainville.

Hab. Society Islands, Molucca, and Philippine Islands. Port Essington, Australia, etc.

This well-known species, the largest of the genus, is also one of considerable geographical range, but has little variation withal. In the earlier whorls the lower half of the whorl is closely obliquely ribbed, and the second row of painting shows only in fine dots.

Terebra Pl. II.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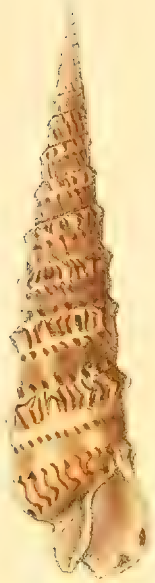
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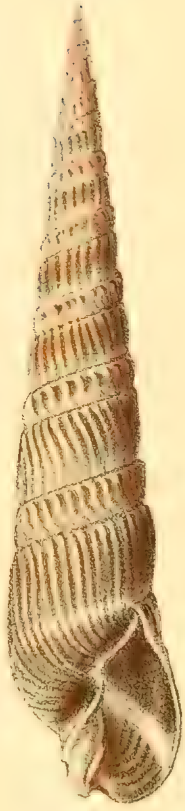
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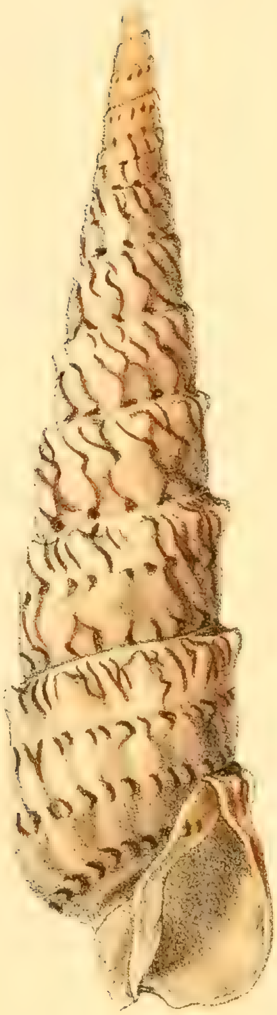
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Sowerby, del.et lith

Vincent Brooks, Imp

TEREBRA.

PLATE II.

Species 5. (Mus. Cuming.)

Terebra strigata. *Ter. testâ subobeso-subulatâ, ponderosâ, versus basin robustâ, spadiceo-lacteâ, rufo-brunneo conspicuè ampliter strigatâ, anfractibus convexo-planatis, primis densè plicato-costatis, cæteris subrugosis, costis evanidis, sulco subobsoleto medio divisis; aperturâ ovatâ, columellâ crassâ subconstrictâ.*

The streaked Terebra. Shell rather stoutly subulate, heavy, robust towards the base, fawn-cream-colour, conspicuously largely streaked with red-brown, whorls convexly flattened, the first closely plicately ribbed, the rest somewhat rough, with the ribs faded away, divided round the middle with a rather obsolete groove; aperture ovate, columella thick, somewhat constricted.

Sowerby, Tankerville Catalogue, App. p. 25.
Terebra elongata, Wood.
Terebra flammea, Lesson.
Terebra zebra, Kiener.

Hab. Panama, Galapagos and Philippine Islands; Cuming. Moluccas, etc.

With a widely extended and somewhat peculiar range of geographical distribution, this species is quite an isolated one in the genus; and its differences of habitat are not marked by any corresponding differences in the shell.

Species 6. (Fig. *a*, *b*, Mus. Cuming.)

Terebra crenulata. *Ter. testâ acutè turritâ, spadiceo-lacteâ, livido-fuscescente plus minus tinctâ, lineis castaneis infra suturas fimbriatâ, et sparsim castaneo punctato-fasciatâ, anfractibus planatis, lævibus, versus apicem confertim plicato-liratis, tuberculis undique coronatis; aperturâ breviusculâ, columellâ vix contortâ.*

The crenulated Terebra. Shell sharply turreted, fawn-cream-colour, more or less faintly stained with livid-brown, frilled with chestnut lines below the sutures, and sparsely dot-banded with chestnut, whorls flattened, closely plicately ridged towards the apex, coronated throughout with tubercles, smooth; aperture rather short, columella scarcely twisted.

Buccinum crenulatum, Linnæus, Syst. Nat. p. 1205.
Terebra crenulata, Lamarck.
Terebra fimbriata, Deshayes.

Hab. Molucca and Pacific Islands.

This species is also an isolated one in the genus, including M. Deshayes's *M. fimbriata*, represented at Fig. 6 *a*, in which I see no difference beyond a richer display of colour.

Species 7. (Mus. Cuming.)

Terebra Dussumieri. *Ter. testâ elongatè subulatâ, subangustâ, griseâ, fulvo-fuscescente latè fasciatâ, anfractibus densè longitudinaliter plicato-liratis, liris supernè obsoletis, sulco divisis; aperturâ oblongâ, columellâ subrectâ.*

Dussumier's Terebra. Shell elongately subulate, rather narrow, grey, broadly banded with fulvous-brown, whorls closely longitudinally plicately ridged, ridges obsolete on the upper part of the whorls, divided off by a groove; aperture oblong, columella rather straight.

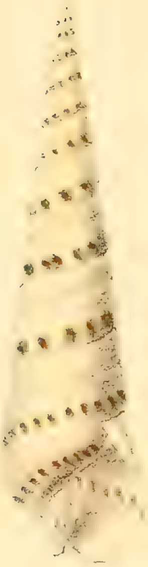
Kiener, Icon. Coq. vivantes, p. 31. pl. 8. f. 17.

Hab. Island of Haynan, China; Humphreys.

Allied to *T. duplicata*, but distinguished from that species by a peculiar rubbed appearance in places, more especially round the upper part of the whorls; and there is no indication of the encircling fillet of purple spots.

February, 1860.

Terebra Pl. III.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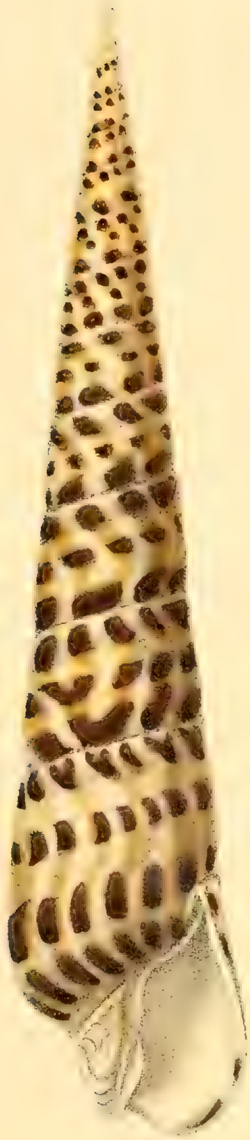
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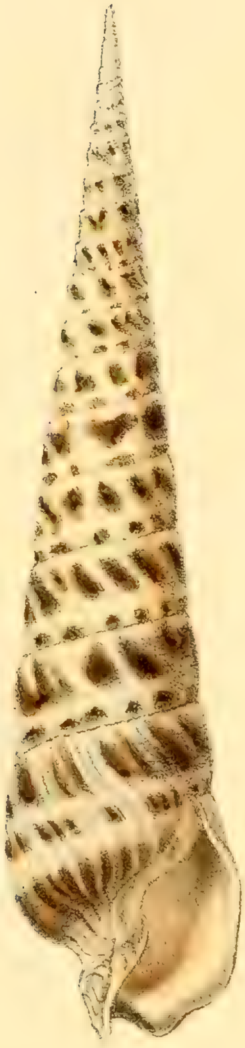
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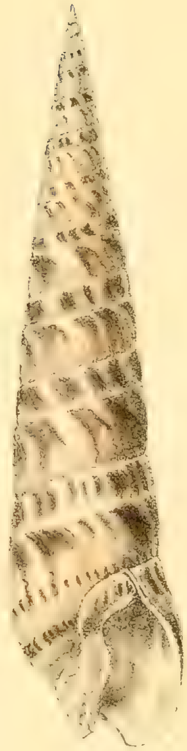
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Sowerby, del et lith

Vincent Brooks, Imp

TEREBRA.

PLATE III.

Species 8. (Mus. Cuming.)

TEREBRA TIGRINA. *Ter. testâ conico-subulatâ, solidiusculâ, carneo-albâ, maculis rufis supra suturas uniseriatim cinctâ, ad basin biseriatâ, anfractibus lævibus, sulco divisis; aperturâ breviusculâ, columellâ subcontortâ.*

THE TIGER-SPOTTED TEREBRA. Shell conically subulate, rather solid, flesh-tinted, white, encircled above the sutures with a single row of red spots, at the base two rows, whorls smooth, divided by a groove; aperture rather short, columella somewhat twisted.

Buccinum tigrinum, Gmelin, Syst. Nat. p. 2602.
Terebra tigrina, Deshayes.
Buccinum felinum, Dillwyn.
Terebra felina, Sowerby.

Hab. West Indies.

Of very simple character, encircled throughout immediately above the sutures with a neat necklace of rust-red spots.

Species 9. (Mus. Cuming.)

TEREBRA MUSCARIA. *Ter. testâ acutè elongato-subulatâ, flavescente, maculis rufo-fuscis quadratis triseriatim cinctâ, anfractibus convexo-planatis, primis plicato-crenulatis, cæteris lævibus, sulco subsuperficiario supernè divisis; aperturâ ovatâ, columellâ rectâ.*

THE FLY-MARKED TEREBRA. Shell sharply elongately subulate, yellowish, encircled with three rows of square red-brown blotches, whorls convexly flattened, the first plicately crenulated, the rest smooth, divided at the upper part by a rather superficial groove; aperture ovate, columella straight.

LAMARCK, Anim. sans vert. vol. x. p. 241.
Terebra subulata, Enc. Méth.

Hab. Island of Ticao, Philippines (in sand, on the reefs at low-water); Cuming.

Compared with *T. subulata*, with which this species has a very natural resemblance, it may be remarked that the shell is less narrowly elongated, and it is encircled by three, instead of two, rows of spots.

Species 10. (Mus. Cuming.)

TEREBRA ROBUSTA. *Ter. testâ acutè elongatâ, versus basin globoso-obesâ, fulvescente-lacteâ, maculis castaneo-rufis irregulariter biseriatim tinctâ, anfractibus convexiusculis subrugosis, versus apicem confertim plicato-crenulatis, sulco centrali obsoleti cingulatis, suturis rudè impressis; aperturâ subangustâ, columellâ subexcavatâ et constrictâ, deinde contortâ et recurvâ.*

THE ROBUST TEREBRA. Shell sharply elongated, globosely stout towards the base, fulvous cream-colour, very irregularly splashed with a double row of chestnut-red blotches, whorls rather convex, somewhat rough, closely plicately crenulated towards the apex, and encircled with a central obsolete groove, sutures rudely impressed; aperture rather narrow, columella slightly excavated and constricted, then twisted and recurved.

HINDS, Pro. Zool. Soc. 1843, p. 149.

Hab. Panama, Gulf of Nicoya, Gulf of Papagayo, and San Blas (in sandy mud, at the depths of from four to eighteen fathoms); Cuming, Belcher.

It is a notable distinguishing feature of this species that the last whorl assumes a subglobose bulbous growth, so constricted below as to give the columella a recurved twist. The painting is extremely irregularly splashed.

Species 11. (Mus. Cuming.)

TEREBRA CHLORATA. *Ter. testâ subobeso-subulatâ, albidâ, maculis luteo-rufis venosis lacteis biseriatim cinctâ, anfractibus convexo-planatis, sulco superficiario supernè latè divisis, prope apicem subtilè plicato-crenulatis; aperturâ suboblongâ, columellâ parum contortâ.*

THE YELLOWISH TEREBRA. Shell rather stoutly subulate, whitish, encircled with two rows of veined, milky, yellowish-red spots, whorls convexly flattened, broadly divided at the upper part with a superficial groove, finely plicately crenulated near the apex; aperture somewhat oblong, columella but little twisted.

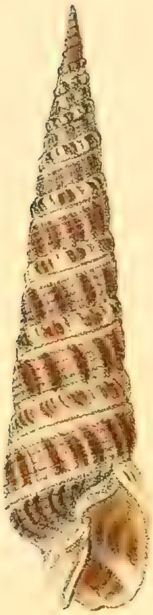
LAMARCK, Anim. sans vert. vol. x. p. 246.
Terebra Knorri, Gray.

Hab. Seychelle Islands; Dufour. Malacca (in sandy mud, at a depth of about ten fathoms); Cuming.

There is a marked peculiarity in the painting of this species; the spots, which have a milky appearance, are rather promiscuously splashed, and the red colouring-matter drains from them, as it were, in irregular veins.

February, 1860.

Terebra Pl. IV.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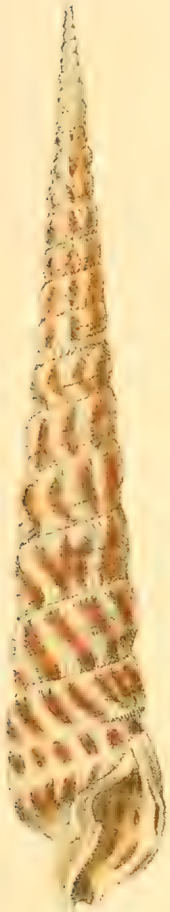
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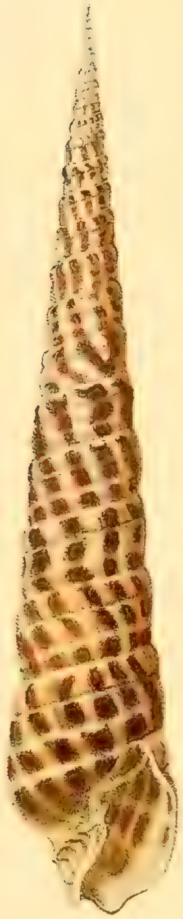
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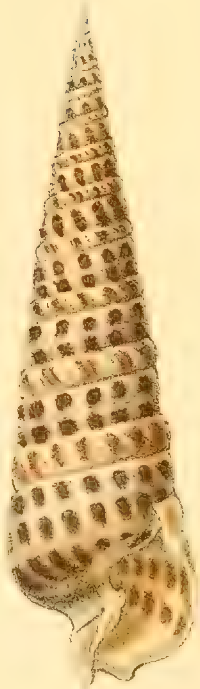
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Vincent Brooks, Imp

TEREBRA.

Plate IV.

Species 12. (Mus. Cuming.)

Terebra variegata. *Ter. testâ subobeso-subulatâ, griseo-cæruleâ, purpureo-fusco strigatâ et maculatâ, anfractibus convexis, spiraliter lineari-sulcatis, supernè callosis et creno-tuberculatis; aperturâ parvinsculâ, columellâ valdè constrictâ et contortâ.*

The variegated Terebra. Shell rather stoutly subulate, greyish-blue, streaked and spotted with purple-brown, whorls convex, spirally linearly grooved, callous and crenulately tubercled round the upper part; aperture rather small, columella very much constricted and tubercled.

Gray, Pro. Zool. Soc. 1834, p. 61.

Hab. Guaymas, Gulf of California (in sandy mud, in deep water); Babb.

A shell of very conspicuous colouring. The nearest allied to it is a West African species *T. intertincta*, from the mouth of the Gambia.

Species 13. (Fig. *a*, *b*, Mus. Cuming.)

Terebra flammea. *Ter. testâ elongato-turritâ, aurantio-lacteâ, rufo-fusco promiscuè flammatâ, anfractibus convexis, rugosis, sulco divisis, versus apicem crenulatis, interdum concavo-sulcatis, undique densè concentricè crenulatis; aperturâ subangustâ, columellâ constrictâ et prominentè contorto-recurvâ.*

The flamed Terebra. Shell elongately turreted, orange-cream-colour, promiscuously flamed with red-brown, whorls convex, rough, divided by a groove, crenulated towards the apex, sometimes concavely grooved, closely concentrically crenulated throughout; aperture rather narrow, columella constricted, and prominently twistedly recurved.

Lamarck, Anim. sans vert. vol. x. p. 239.

Terebra incomparabilis, Deshayes.

Hab. China; Japan; Moreton Bay, Australia; Panama.

Like many other species of the genus, *T. flammea* has a wide range of habitation. The Panama variety, collected by Mr. Bridges, is M. Deshayes's *T. incomparabilis.* Some specimens are concentrically crenulated much more than others.

Species 14. (Mus. Cuming.)

Terebra ornata. *Ter. testâ obeso-subulatâ, carneo-lacteâ, maculis quadratis purpureis subdistantibus triseriatim cinctâ, anfractibus convexo-planatis, sulco prope medium divisis, versus apicem margine obsoletè crenulatis; aperturâ ovatâ, columellâ valdè constrictâ et contorto-recurvâ.*

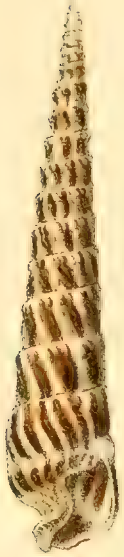
The ornate Terebra. Shell stoutly subulate, fleshy cream-colour, encircled throughout with three rows of rather distant square purple spots, whorls convexly flattened, divided near the middle by a groove, obsoletely crenulated at the margin towards the apex; aperture ovate, columella very much constricted and twistedly recurved.

Gray, Pro. Zool. Soc. 1834, p. 62.

Hab. Galapagos Islands (in coral sand, at a depth of from five to seven fathoms); Cuming.

A stoutly subulate shell, distinguished by the regularity and neatness of its painting of purple spots, of which the upper row is of a paler and more foxy hue than the others.

February, 1860.



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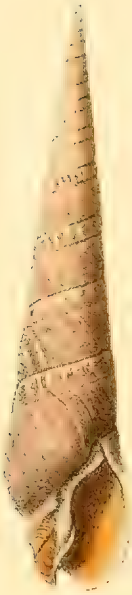

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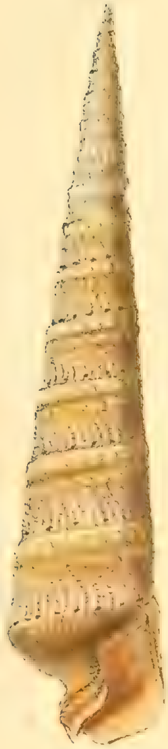

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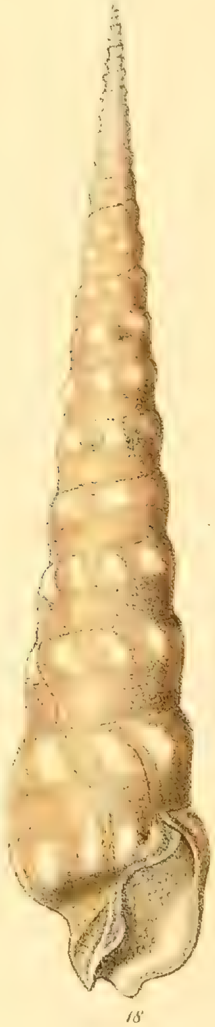

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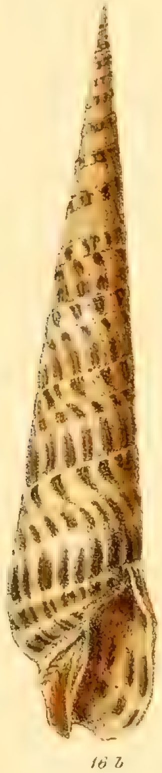


16 b

Sowerby, del et lith

Vincent Brooks, Imp

TEREBRA.

Plate V.

Species 15. (Mus. Cuming.)

Terebra lingualis. *Ter. testâ subulato-turritâ, subangustâ, aurantio-albidâ, flammis castaneo-fuscis conspicuis ornatâ, anfractibus plano-concavis, lineis duabus impressis divisis, supernè tumidiusculis, biseriatim tuberculato-crenatis; columellâ contorto-recurvâ.*

The tongued Terebra. Shell subulately turreted, rather narrow, orange-white, ornamented with conspicuous chestnut-brown flames, whorls flatly concave, divided by two impressed lines, rather swollen round the upper part, doubly tubercularly crenated; columella twistedly recurved.

Hinds, Pro. Zool. Soc. 1843, p. 153.
Terebra insignis, Deshayes.

Hab. Gulf of Papagayo and Bay of Montija, west coast of America (at a depth of from ten to seventeen fathoms); Hinds, Cuming.

A well-marked species, distinguished from its nearest allies, *T. flammea* and *formosa*, by the more roughly crenated sculpture of the whorls, and by the two impressed lines by which they are divided. M. Deshayes' *T. insignis* is a large-spotted variety.

Species 16. (Fig. *a*, *b*, Mus. Cuming.)

Terebra Senegalensis. *Ter. testâ acutè subulatâ, ferrugineo-spadiceâ, purpureo-castaneo strigatâ et maculatâ, anfractibus convexo-planis, primis densè validè acutè plicatis, cæteris nunc striatis, nunc lævibus, versus partem superiorem lineâ impressâ cingulatis; columellâ obesâ, rectâ.*

The Senegal Terebra. Shell sharply subulate, rusty fawn-colour, streaked and blotched with purple-chestnut, whorls convexly flattened, the first densely strongly sharply plaited, the rest sometimes striated, sometimes smooth, encircled towards the upper part with an impressed line; columella stout, straight.

Lamarck, Anim. sans vert. vol. x. p. 244.
Le Faval, Adanson.
Terebra striatula, Lamarck.
Terebra fusco-maculata, Sowerby.
Terebra cingula, Kiener.
Terebra speciosa, Deshayes.
Terebra festiva, Deshayes.

Hab. Senegal and mouth of the Gambia, West Africa (in sandy mud in deep water).

T. speciosa and *festiva*, described by M. Deshayes in the 'Journal de Conchyliologie' for 1857, are different forms of this well-known species in an early stage of growth; and M. Kiener's *T. cingula* is a variety in which the later whorls are smooth and shining. The blunt straightness of the columella and the plan of colouring are characteristic in all.

Species 17. (Mus. Cuming.)

Terebra succinea. *Ter. testâ pyramidali-turritâ, succineâ, minutè sparsim biseriatim rufo-punctatâ, anfractibus plano-concavis, supernè tumidiusculis, sulco divisis, infra irregulariter densè arcuato-corrugatis, ultimo ad basin subangulato, deinde contracto; columellâ contorto-recurvâ.*

The amber Terebra. Shell pyramidally turreted, amber-coloured, minutely sparsely red-dotted in two rows, whorls flatly concave, rather swollen, and divided by a groove at the upper part, below irregularly closely arcuately wrinkled, last whorl slightly angled at the base, then contracted, with the columella twistedly recurved.

Hinds, Pro. Zool. Soc. 1843, p. 149.

Hab. Matnog, province of Albay, Island of Luzon, Philippines (found on a coral bank, thrown up in a gale of wind); Cuming.

There are three specimens of this species in the Cumingian collection, and one in that of Mr. T. Lombe Taylor. They are of a uniform semitransparent amber-colour, encircled by two distant rows of minute red dots, the whorls being concave and sculptured towards the lower part with an irregular gathering of arched shrivelled wrinkles.

Species 18. (Mus. Cuming.)

Terebra oculata. *Ter. testâ elongato-turritâ, solidiusculâ, fulvescente-spadiceâ, maculis grandibus albis uniseriatim, ad basin biseriatim, cinctâ, anfractibus primis crenulatis, deinde lævibus, infra planis, supra tumidis; columellâ subcontortâ.*

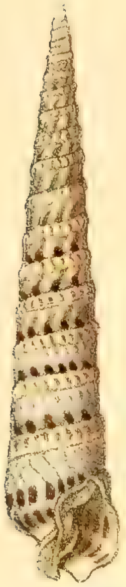
The eyed Terebra. Shell elongately turreted, rather solid, fulvous-fawn, encircled with a row, at the base with two rows, of large white spots, whorls, the first crenulated, then smooth, flat below, swollen above; columella slightly twisted.

Lamarck, Anim. sans vert. vol. x. p. 242.
Terebra lævis, Gray.

Hab. Isle of Annaa, Society Islands (in sand, on coral reefs, at low water); Cuming.

There is no species of the genus in which there is so little variation either of form or colouring as in this. In dwarf specimens the white spots are often obscure.

March, 1860.



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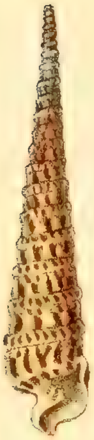

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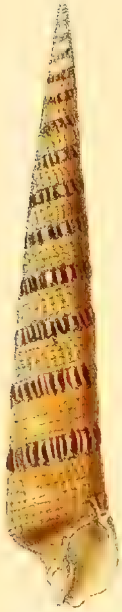

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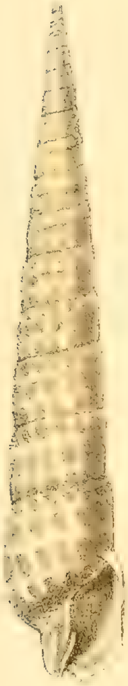

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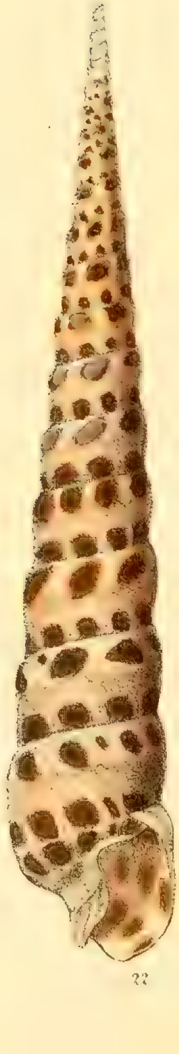

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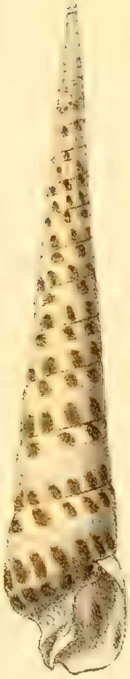

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Sowerby, del et lith.

Vincent Brooks, Imp.

PLATE VI.

Species 19. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA CORRUGATA. *Ter. testâ elongato-turritâ, perangustâ, fulvo-lacteâ, maculis purpureis triseriatim pictâ, anfractibus convexo-planatis, supernè tumidiusculis et nodoso-crenulatis, crenulis sulco divisis; columellâ validè contorto-recurvâ.*

THE WRINKLED TEREBRA. Shell elongately turreted, very narrow, fulvous cream-colour, painted with three rows of purple spots, whorls convexly flattened, rather swollen, and nodosely crenulated round the upper part, the crenules divided by a groove; columella strongly twistedly recurved.

LAMARCK, Anim. sans vert. vol. x. p. 244.
Terebra punctata, Gray.
Terebra regina, Deshayes.
Terebra bitorquata, Deshayes.

Hab. Loanda, west coast of Guinea (found on the sands); Dr. Tams.

M. Deshayes's *T. regina*, of which the original type is represented at Fig. 19 *b*, is a smooth, obese variety of Lamarck's *T. corrugata*; and his *T. bitorquata*, of which the original type, belonging to M. Crosse, of Paris, has reached me too late to be figured, is a fine symmetrical example of the noduled variety, of smaller dimensions, from Mr. Cuming's collection, represented at Fig. 19 *a*. I agree with M. Kiener in considering these to be varieties. The uppermost row of purple spots appears in the interstices between the nodules; and the nodules, divided by a spiral impressed line, are in the lower row frequently more or less obsolete. M. Crosse's very elegant specimen is at least an inch longer than the Cumingian specimen. In both the columella is unnaturally exposed to view from the lip being broken away.

Species 20. (Mus. Cuming.)

TEREBRA PERTUSA. *Ter. testâ angustè subulatâ, aurantio-succineâ, albo interdum tessellatâ, prope suturam rufo-purpureo densè strigato-maculatâ, anfractibus plano-convexis, longitudinaliter tenuè plicato-liratis, interstitiis undique pertusis; columellâ rectâ.*

THE PRICKED TEREBRA. Shell narrowly subulate, orange-amber, sometimes tessellated with white, closely streak-spotted with reddish-purple next the suture, whorls flatly convex, longitudinally finely plicately ridged, the interstices pricked throughout; columella straight.

Buccinum pertusum, Born, Mus. p. 267. pl. 10. f. 13.

Hab. Darnley Island, Australia; Jukes.

Of a delicate orange-amber colour, painted next the suture in a very characteristic manner in the interstices between the folds with reddish-purple. Though figured nearly a century ago by Born in his 'Vienna Museum,' the species was not known to Lamarck, and it is only very recently that its habitat has been discovered.

Species 21. (Mus. Cuming.)

TEREBRA ARGUS. *Ter. testâ subelongato-subulatâ, albescente, maculis subquadratis pallidissimè spadiceis triseriatim, in anfractu ultimo quadriseriatim, cinctâ, anfractibus planulatis, supernè tumidiusculis, primis ad marginem tenuè crenulatis et sulco divisis; columellâ subrectâ.*

THE ARGUS TEREBRA. Shell somewhat elongately subulate, whitish, encircled with three rows, in the last whorl with four rows, of somewhat square, very pale, fawn spots, whorls flattened, rather swollen round the upper part, the first whorls finely crenulated at the margin, and divided by a groove; columella rather straight.

HINDS, Pro. Zool. Soc. 1843, p. 160.
Terebra nebulosa, Kiener (not of Sowerby).

Hab. Tahiti, Society Islands (in coral sand, on the reefs); Cuming. Nukuhiva, Marquesas Islands; Hinds.

The spots are peculiarly faintly stained, and very regular and characteristic.

Species 22. (Mus. Cuming.)

TEREBRA SUBULATA. *Ter. testâ elongatè subulatâ, fulvescente-albâ, maculis purpureo-fuscis subquadratis biseriatim, in anfractu ultimo triseriatim, cinctâ, anfractibus convexo-planatis, supernè tumidiusculis, primis perpaucis tenuicrenulatis, sulco divisis; columellâ brevi, subcontortâ.*

THE SUBULATE TEREBRA. Shell elongately subulate, fulvous-white, encircled with two rows, in the last whorl with three rows of somewhat square purple-brown spots, whorls convexly flattened, rather swollen towards the upper part, the first few finely crenulated and divided by a groove; columella short, slightly twisted.

Buccinum subulatum, Linnæus, Syst. Nat. p. 1205.

Hab. Society and Philippine Islands (in sand, on coral reefs, at low water); Cuming.

Chiefly distinguished from *T. muscaria* by its more slender proportions, and in being encircled by only two rows of spots, while the early whorls are not plicated longitudinally, as in that species.

Species 23. (Mus. Cuming.)

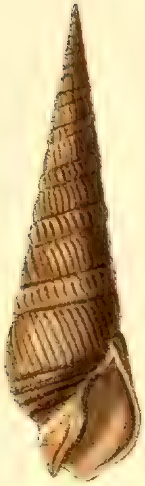
TEREBRA CONSOBRINA. *Ter. testâ elongato-subulatâ, cærulescente-albâ, maculis quadratis spadiceo-fuscis biseriatim, in anfractu ultimo triseriatim, cinctâ, anfractibus planulatis, spiraliter pertuso-striatis, primis sulco divisis et nodoso-crenulatis; columellâ brevi, subrectâ.*

THE COUSIN TEREBRA. Shell elongately subulate, bluish-white, encircled with two rows, in the last whorl with three rows of fawn-brown square spots, whorls flattened, spirally pricked-striated, the first divided by a groove, and nodosely crenuled; columella short, nearly straight.

DESHAYES, Pro. Zool. Soc. 1859, p. 308.

Hab. Red Sea.

Well distinguished by M. Deshayes from *T. subulata*, with which species it had been previously confounded. It is of a more conically subulate form, with the spots more delicately stained, whilst the surface of the whorls is encircled at regular intervals with pricked striæ.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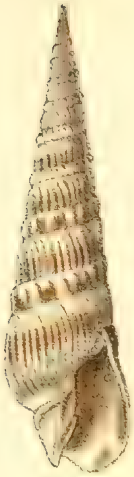
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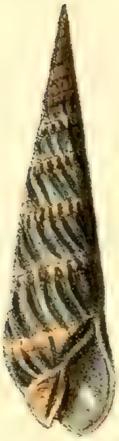
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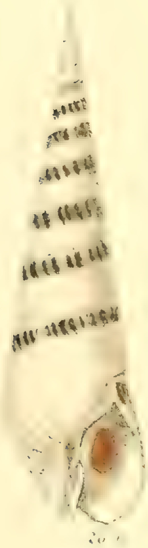
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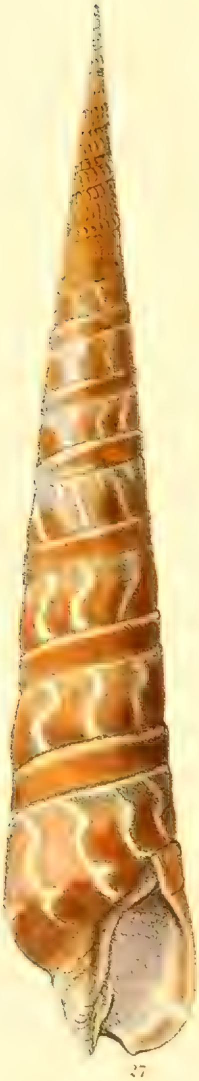
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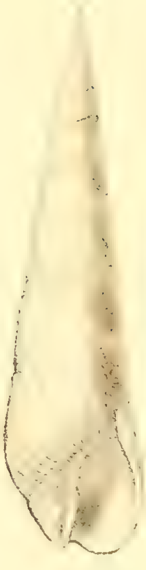
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Vincent Brooks, Imp

TEREBRA.

Plate VII.

Species 24. (Mus. Cuming.)

Terebra Gouldi. *Ter. testâ abbreviato-subulatâ, versus basin subventricosâ, lacteâ, fuscescente-spadiceo bifasciatâ, anfractibus declivi-planulatis, undique validè irregulariter densè plicato-liratis, supernè sulco conspicuo divisis, ad marginem rudè obsoletè nodulosis; columellâ subrectâ.*

Gould's Terebra. Shell shortly subulate, somewhat ventricose towards the base, cream-coloured, two-banded with brownish-fawn, whorls slopingly flattened, strongly irregularly closely plicately ridged throughout, divided by a conspicuous groove at the upper part, rudely obsoletely noduled at the margin; columella nearly straight.

Deshayes, Pro. Zool. Soc. 1859, p. 278.

Hab. Sandwich Islands; Dr. Newcomb.

An elaborately sculptured shell, though the sculpture is somewhat irregular in development, while the nodules next the sutures are rather obsolete. The banded colouring is of a uniform light-brown fawn throughout.

Species 25. (Mus. Cuming.)

Terebra ligneola. *Ter. testâ abbreviato-subulatâ, versus basin ventricosâ, intus extusque sordidè castaneâ, anfractibus declivi-convexis, longitudinaliter plicatim undato-liratis, depressione supernè divisis, ultimo circa basin nodoso-striato; columellâ contractâ et contortâ.*

The wooden Terebra. Shell shortly subulate, ventricose towards the base, dull-chestnut within and without, whorls slopingly convex, longitudinally plicately wave-ridged, divided towards the upper part by a depression, last whorl nodosely striated round the base; columella contracted, twisted.

Terebra castanea, Hinds (not of Kiener), Thes. Conch. vol. i. p. 161. pl. 43. f. 59.

Hab. China; Fortune.

This shell, a very rare and characteristic new species, was described and figured by Mr. Hinds for M. Kiener's *T. castanea*. *T. castanea* is a red-stained specimen of the common *T. cinerea*, named by Mr. Hinds, in different states, *T. laurina*, *stylata*, and *luctuosa*, and by Mr. C. B. Adams *T. Jamaicensis*.

Species 26. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Terebra cærulescens. *Ter. testâ abbreviato-subulatâ, crassâ, subponderosâ, cærulescente-cincreâ vel albâ, vel albâ infra suturam cærulescente-cinereo fasciatâ, anfractibus declivi-planulatis, lævibus, longitudinaliter subtilissimè undato-striatis; columellâ obesâ, rectâ, subtruncatâ.*

The bluish Terebra. Shell shortly subulate, thick, rather ponderous, bluish-ash, or white, or white banded beneath the suture with bluish-ash, whorls slopingly flattened, smooth, longitudinally very finely wave-striated; columella stout, straight, somewhat truncated.

Lamarck, Anim. sans vert. vol. x. p. 245.

Bullia cærulescens, Gray.

Hab. Society and Philippine Islands (in sandy mud, at low water); Cuming. Feejee Islands; Hinds.

A smooth, solid species, varying in colour principally as represented by the three specimens figured.

Species 27. (Mus. Cuming.)

Terebra dimidiata. *Ter. testâ elongato-subulatâ, acutissimâ, rufo-aurantiâ, interdum pallidâ, albo variè strigatâ et fasciatâ, anfractibus declivi-planatis, primis perpaucis plicato-crenulatis, cæteris lævibus, sulco conspicuo supernè divisis; columellâ rectâ, vix contortâ.*

The divided Terebra. Shell elongately subulate, very sharp, reddish-orange, sometimes pale, variously streaked and banded with white, whorls slopingly flattened, the first few plicately crenulated, the rest smooth, divided towards the upper part with a conspicuous groove; columella straight, scarcely twisted.

Buccinum dimidiatum, Linnæus, Syst. Nat. p. 1206.

Buccinum hecticum, Chemnitz (not of Linnæus).

Terebra dimidiata, Lamarck.

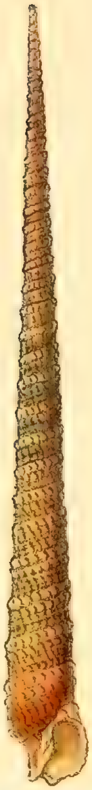
Terebra splendens, Deshayes.

Hab. Society and Philippine Islands; Cuming.

A pale variety of this species, in which the colouring is broken up into square spots, has been separated by M. Deshayes under the title of *T. splendens*. A careful examination of his type, for the loan of which I am greatly indebted, has satisfied me that he has over-estimated its peculiarities.

March, 1860.

Terebra Pl. VIII.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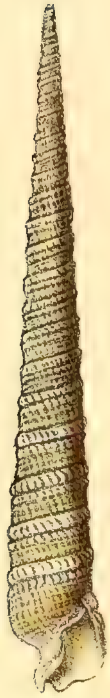
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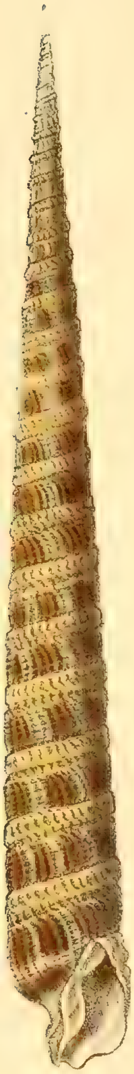
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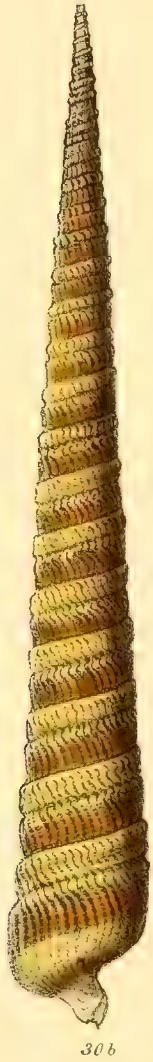
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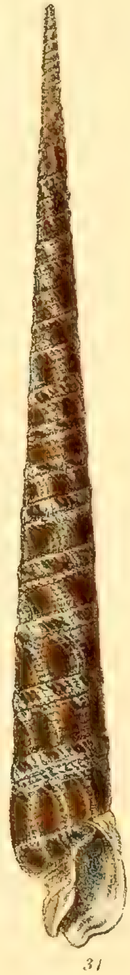
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Sowerby, del et lith

Vincent Brooks, Imp

TEREBRA.

Plate VIII.

Species 28. (Mus. Cuming.)

Terebra prælonga. *Ter. testâ perelongato-turritâ, gracillimâ, fulvo-aurantiâ, anfractibus angustis, plano-concavis, decussatim granulatis, supernè biseriatim nodulosis, serie supremâ majore; aperturâ parvâ, columellâ brevi, contorto-recurvâ.*

The very long Terebra. Shell very elongately turreted, very slender, fulvous-orange, whorls narrow, flatly concave, decussately granuled, encircled with two rows of nodules at the upper part, the upper row the larger; aperture small, columella short, twistedly recurved.

Deshayes, Pro. Zool. Soc. 1859, p. 315.

Hab. Port Curtis, Australia; Stuchbury.

This species and *T. triseriata*, to which it is very closely allied, are the most slenderly elongated forms of the genus, each being composed of from thirty-five to forty narrow whorls, sculptured throughout with a multiplicity of nodules in spiral necklaces of beads.

Species 29. (Mus. Cuming.)

Terebra Cumingii. *Ter. testâ elongato-turritâ, gracili, semipellucido-albâ, anfractibus concavo-planatis, undiquè exquisitè granoso-cancellatis, gemmis clathratis supernè biseriatim cinctis; aperturâ parvâ, columellâ gracili, contorto-recurvâ.*

Cuming's Terebra. Shell elongately turreted, slender, semitransparent-white, whorls concavely flattened, exquisitely granosely cancellated throughout, encircled round the upper part with two rows of latticed beads; aperture small, columella slender, twistedly recurved.

Deshayes, Pro. Zool. Soc. 1859, p. 311.

Hab. China.

Although a solid shell, *T. Cumingii* has a delicate semitransparent-white aspect, the surface being most elaborately latticed throughout with fine beads.

Species 30. (Fig. *a*, *b*, Mus. Cuming.)

Terebra pretiosa. *Ter. testâ elongato-turritâ, fulvescente-albâ, maculis aurantio-fuscis promiscuis fasciatâ, anfractibus convexo-planatis, concentricè densè arcuato-liratis, interstitiis clathratis, supernè sulcatis, versus aperturam bisulcatis, sulcis liris arcuatis interruptis; columellâ contorto-recurvâ.*

The precious Terebra. Shell elongately turreted, fulvous-white, banded with promiscuous blotches of orange-brown, whorls convexly flattened, concentrically closely arcuately ridged, the interstices being latticed, grooved, towards the aperture double grooved round the upper part, the grooves being interrupted by the arched ridges; columella twistedly recurved.

Reeve, Pro. Zool. Soc. 1842, p. 200.

Hab. China.

This very elegant species is distinguished by a peculiar sculpturing of concentric shrivelled ridges, the interstices between which are latticed. The growth of the shell continues with the most symmetrical regularity, and there is little or no variation of the colouring.

Species 31. (Mus. Cuming.)

Terebra myuros. *Ter. testâ perelongato-turritâ, cærulescente-albâ, maculis amplis rufo-fuscis tessellatâ, anfractibus planatis, striis confertim scabroso-clathratis, supernè biseriatim granuloso-liratis, liris versus aperturam evanidis, granulis plus minus obsoletis; aperturâ parvâ, columellâ contorto-recurvâ.*

The rat's-tail Terebra. Shell very elongately turreted, bluish-white, tessellated with large blotches of red-brown, whorls flattened, closely scabrously latticed with striæ, encircled round the upper part with two rows of granuled ridges, ridges blended towards the aperture, with the granules more or less obsolete; aperture small, columella twistedly recurved.

Lamarck, Anim. sans vert. vol. x. p. 247.

Terebra scabrella, Lamarck.

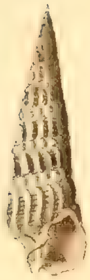
Terebra commaculata, Pfeiffer.

Hab. Moluccas. New Ireland.

There is no doubt of Lamarck's *T. myuros* and *scabrella* being varieties of one and the same species. What Gmelin's *Buccinum commaculatum* was, like many other of his very ambiguous species, it is impossible to say.

March, 1860.

Terebra Pl. IX.



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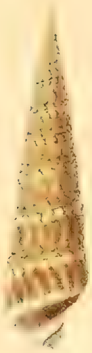

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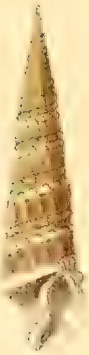

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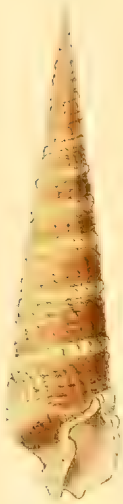

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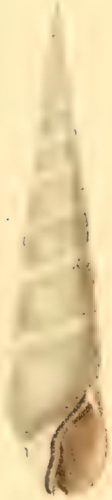

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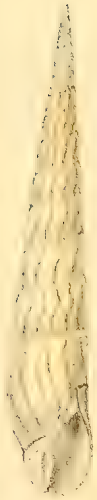

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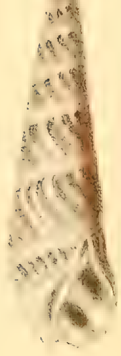

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Sowerby, del. et lith.

Vincent Brooks, Imp.

TEREBRA.

PLATE IX.

Species 32. (Fig. 32, Mus. Cuming.)

TEREBRA DISLOCATA. *Ter. testâ conico-subulatâ, turritâ, cinereo-albâ, purpureo-spadiceo fasciatâ, versus apicem rufescente-flavâ, anfractibus declivi-planatis, longitudinaliter plicato-liratis, liris subarcuatis, interstitiis transversim lineari-sulcatis, supernè sulco conspicuè divisis, ad marginem tuberculato-nodosis; columellâ constrictâ et contorto-recurvâ.*

THE DISLOCATED TEREBRA. Shell conically subulate, turreted, ash-white, banded with purple-fawn, reddish-yellow towards the apex, whorls slopingly flattened, longitudinally plicately ridged, ridges slightly arched, interstices transversely linearly grooved, conspicuously divided at the upper part by a groove, tubercularly noduled at the margin; columella constricted and twistedly recurved.

Cerithium dislocatum, Say, Journ. Acad. Nat. Sci. Philadelphia, vol. ii. p. 236.
Terebra Petitii, Kiener.

Hab. Southern United States and California.

The folds and nodules stand out conspicuously white upon a purple-ash ground.

Species 33. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA GEMMULATA. *Ter. testâ subulato-turritâ, albidâ, plus minus rufescente-fusco fasciatâ, anfractibus concavo-planatis, longitudinaliter plicato-liratis, liris arcuatis, nunc distantibus, nunc confertis, supernè nodulatis, anfractuum parte supremâ concavo-sulcatâ, ad marginem nodulatis; columellâ tenuè costatâ, saturatè fasciatâ.*

THE GEMMED TEREBRA. Shell subulately turreted, white, more or less banded with reddish-brown, whorls concavely flattened, longitudinally plicately ridged, ridges arched, sometimes distant, sometimes close-set, noduled at the upper part, upper part of the whorls concavely grooved, noduled at the margin; columella thinly twisted, darker banded.

KIENER, Icon. Coq. vivantes, p. 15. pl. 5. f. 11 and 11 *a*.
Terebra Patagonica, D'Orbigny.
Terebra Chilensis, Deshayes.

Hab. Patagonia, Chili.

A careful comparison of the original types of *T. Patagonica* and *Chilensis* with authentic specimens of M. Kiener's *T. gemmulata* leaves no doubt in my mind of their being different states of the same species. M. D'Orbigny's shell, *T. Patagonica*,—and he had but one,—now in the British Museum, is a large specimen, in bad condition, artificially elaborated in his figure in the Voy. dans l'Amérique Méridionale. M. Deshayes' shell, *T. Chilensis*,—and he has but one,—is a slenderly convoluted form of the species, with the longitudinally plicated ridges rather numerous and close-set.

Species 34. (Mus. Cuming.)

TEREBRA RUDIS. *Ter. testâ subulato-turritâ, albidâ aut rufescente, apice flavo, anfractibus planis, longitudinaliter plicatis, transversim lineari-sulcatis, cancellatis, supernè sulco divisis, margine concentricè nodulatis; aperturâ parviusculâ, columellâ contortâ.*

THE RUDE TEREBRA. Shell subulately turreted, whitish or reddish, apex yellow, whorls flat, longitudinally plicated, transversely linearly grooved, cancellated, divided round the upper part by a groove, margin concentrically noduled; aperture rather small, columella twisted.

GRAY, Pro. Zool. Soc. 1834, p. 60.
Myurella rufo-cinerea, Carpenter.

Hab. South Carolina; Dr. Jay.

It is somewhat doubtful whether this is not a variety of Say's *T. dislocata*, figured above it.

Species 35. (Mus. Cuming.)

TEREBRA CINEREA. *Ter. testâ acutè subulatâ, griseo-cinereâ, intus castaneo fasciatâ, anfractibus declivi-planatis, longitudinaliter tenuè undato-striatis, supernè minutè vel modicè creberrimè plicatis et interdum purpureo maculatis; aperturâ parvâ, columellâ callosâ, nitidè castaneâ, rectâ, subtruncatâ.*

THE ASH-COLOURED TEREBRA. Shell sharply subulate, greyish-ash, chestnut-banded within, whorls slopingly flattened, longitudinally finely wave-striated, minutely or moderately closely plicated, and sometimes purple-spotted round the upper part; aperture small, columella callous, shining-chestnut, straight, somewhat truncated.

BORN, Mus. Vind. p. 267. pl. 10. f. 11, 12.

March, 1860.

Terebra castanea, Kiener (not of Hinds).
Terebra laurina, Hinds.
Terebra luctuosa, Hinds.
Terebra stylata, Hinds.
Terebra Jamaicensis, C. B. Adams.

Hab. West Africa (in sandy mud, in shallow water); Hennah. Japan; Hinds. Cagayan, Island of Mindanao, Philippines (in sandy mud, at the depth of twenty-five fathoms); Cuming. West Indies; C. B. Adams, Beau, Dr. Hornbeck. Mazatlan; Carpenter.

Characterized by a uniform cinereous colour and shining-chestnut columella, and by the delicate concentric plications of the upper part of the whorls, round which there is only a scarcely perceptible depression in the place of the customary groove. The geographical distribution of the species is curious. The variety figured is Mr. Hinds's *T. laurina*, from West Africa; the variety nearest allied to it, of which I have numerous specimens under examination, both from Mr. Cuming's and M. Deshayes' collections, is from the West Indies. The Japan and Philippine variety is smaller, with the plications rather more strongly developed, with sometimes a row of purple spots running through them; and the Mazatlan variety is of a leaden-blue.

In 1857, Journ. de Conch. vol. vi. p. 80, M. Deshayes considered Mr. Hinds's *T. luctuosa* and *stylata* distinct species, separate from Mr. C. B. Adams's *T. Jamaicensis*. In 1859, Pro. Zool. Soc. p. 290, M. Deshayes inclined to think that *T. luctuosa*, *stylata*, and *laurina*, though still quoting them as distinct species, should be united to *T. Jamaicensis*. I unhesitatingly assign the whole, including the red-discoloured specimen named *T. castanea* by M. Kiener, which is not *T. castanea*, Hinds, to the *Buccinum cinereum*, accurately described and figured by the Baron de Born, in 1780, in his Test. Mus. Cæs. Vindobonensis. The shell incorrectly assigned to Born's *B. cinereum* by Hinds, is a variety of his *T. inconstans*.

Species 36. (Mus. Cuming.)

TEREBRA LANCEATA. *Ter. testâ acuminato-subulatâ, glaberrimâ, nitente-albâ, flammulis luteis obliquis subdistantibus longitudinaliter pictâ, anfractibus declivi-planatis, primis crenulato-plicatis; aperturâ parvâ, columellâ rectâ, subtruncatâ.*

THE LANCED TEREBRA. Shell acuminately subulate, very smooth, shining-white, longitudinally painted with oblique, rather distant yellow flames, whorls slopingly flattened, the first crenulately plicated; aperture small, columella straight, slightly truncated.

Buccinum lanceatum, Linnæus, Syst. Nat. p. 1206.

Hab. Tahiti (in sandy mud, on the reefs); Cuming.

A polished, porcelain-white shell, obliquely longitudinally painted with distant hair flames of reddish-yellow.

Species 37. (Mus. Cuming.)

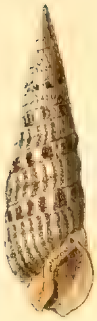
TEREBRA NIMBOSA. *Ter. testâ subulatâ, ad basin truncato-ventricosâ, griseo-albâ, cinereo-fusco longitudinaliter nebuloso-undatâ, anfractibus declivi-planatis, lævibus; aperturâ parvâ, columellâ rectâ, truncatâ.*

THE RAINY TEREBRA. Shell subulate, truncately ventricose at the base, greyish-white, longitudinally nebulously waved with ash-brown, whorls slopingly flattened, smooth; aperture small, columella straight, truncated.

HINDS, Pro. Zool. Soc. 1843, p. 151.

Hab. Red Sea; M. Botta.

A grey-clouded species, of very simple character, encircled with a faint depression in the place so frequently occupied by a groove.



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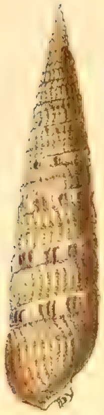

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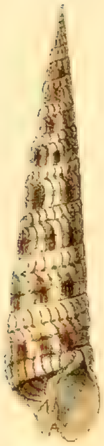

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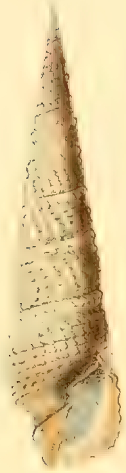

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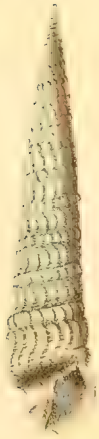

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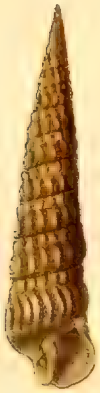

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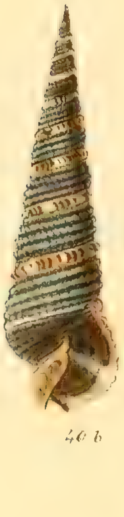

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Sowerby, del. et lith.

Vincent Brooks, Imp.

PLATE X.

Species 38. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA CERITHINA. *Ter. testâ cylindraceo-subulatâ, solidiusculâ, albidâ, carneolo variè punctatâ et strigatâ, anfractibus convexiusculis, supernè superficialiter sulcatis, primis densè plicato-liratis, liris gradatim evanidis; aperturâ parvâ, columellâ rectâ, labiatâ.*

THE CERITHIUM-LIKE TEREBRA. Shell cylindrically subulate, rather solid, whitish, variously stained and streaked with carnelion-red, whorls rather convex, superficially grooved round the upper part, the first closely plicately ridged, ridges gradually fading away; aperture small, columella straight, lipped.

KIENER, Icon. Coq. vivantes, p. 33. pl. 11. f. 25.

Hab. Philippine and Society Islands (in coral sand, on the reefs); Cuming.

The carnelion painting of this species, which is distinguished by a cylindrical form, appears in the interstices between the ribs, puckered, as it were, into darker spots below the sutures.

Species 39. (Mus. Cuming.)

TEREBRA AFFINIS. *Ter. testâ conico-subulatâ, albidâ, carneolo promiscuè tessellato-maculatâ, anfractibus declivi-planatis, supernè sulco divisis, longitudinaliter creberrimè planicostatis, costarum interstitiis pertusis; aperturâ parvâ, columellâ vix contortâ.*

THE ALLIED TEREBRA. Shell conically subulate, whitish, promiscuously tessellately blotched with carnelion-red, whorls slopingly flattened, divided round the upper part by a groove, longitudinally very closely flatly ribbed, interstices between the ribs pricked; aperture small, columella slightly twisted.

GRAY, Pro. Zool. Soc. 1834, p. 60.

Terebra striata, Quoy (not of Basterot).

Terebra eburnea, Hinds.

Hab. Tahiti (in sand at low water); Philippine Islands (in mud, at a depth of from six to twelve fathoms); Cuming. Feejee and Seychelle Islands; Hinds.

Smaller specimens of this species, which are not uncommon, are less conically subulate in form, more cylindrical, but the detail of sculpture, a more or less crowded deposit of flattened ribs, pricked in the interstices, is unvarying.

Species 40. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA ASPERA. *Ter. testâ subulato-turritâ, acutâ, interdum albidâ, rufescente-spadiceo pallidè tinctâ et maculatâ, plerumque intensè cinereo-purpureo supra et infra angustè albo-zonatâ, zonis rufo-fusco remotè maculatis, anfractibus convexis, supernè sulco divisis, ad marginem plicato-crenatis, deinde decussatim liratis, liris ad decussationem conspicuè albigranatis; columellâ contorto-recurvâ.*

THE ROUGH TEREBRA. Shell subulately turreted, sharp, sometimes whitish, faintly tinged and blotched with reddish-fawn, generally deep ash-purple, narrowly white-zoned above and below, the upper zones being distantly spotted with red-brown, whorls convex, divided round the upper part by a groove, plicately crenated at the margin, then decussately ridged, the ridges being conspicuously white-grained at the point of crossing; columella twistedly recurved.

HINDS, Pro. Zool. Soc. 1843, p. 154.

Terebra Petiveriana, Deshayes.

Hab. Panama, Monte Christi, St. Elena, West Colombia (in sandy mud, at depths of from six to fourteen fathoms); Cuming, Bridges.

In the pale-coloured variety of this species the ridges are more widely decussated than in the purple-ash variety. In the latter, which is the most characteristic and the most common, sometimes the transverse ridges are the stronger, sometimes the longitudinal. The last-named state of the species is M. Deshayes' *T. Petiveriana*.

Species 41. (Fig. *a*, *b*, Mus. Cuming.)

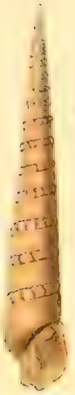
TEREBRA LARVÆFORMIS. *Ter. testâ elongato-cylindraceâ, subturritâ, albâ vel rosaceo-albâ, interdum brunneâ, anfractibus convexis, longitudinaliter plicato-costatis, costis arcuatis, supernè sulco valido divisis, interstitiis transversim minutè lineari-incisis; aperturâ parvâ, columellâ breviusculâ, parum contortâ.*

THE LARVA-SHAPED TEREBRA. Shell elongately cylindrical, somewhat turreted, white or pink-white, sometimes brown, whorls convex, longitudinally plicately ribbed, ribs arched, divided at the upper part by a strong groove, interstices between the ribs transversely minutely linearly engraved; aperture small, columella rather short, but little twisted.

HINDS, Pro. Zool. Soc. 1843, p. 155.

Hab. St. Elena and Monte Christi, West Colombia (in sandy mud, at depths of from six to fifteen fathoms); Cuming.

Peculiarly characterized by its cylindrically elongated larva-like form.



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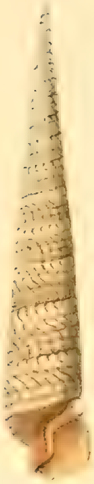

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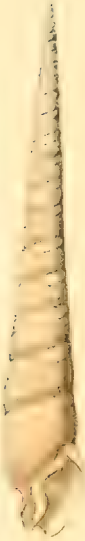

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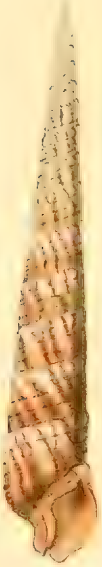

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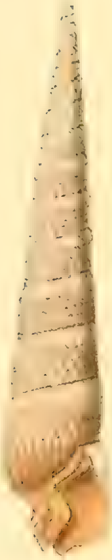

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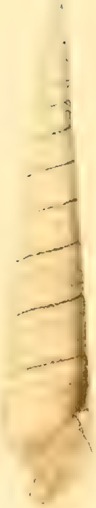
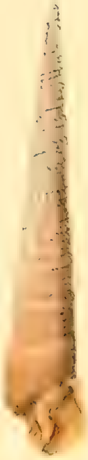




42 b

TEREBRA.

PLATE XI.

Species 42. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA MONILIS. *Ter. testâ acuminato-turritâ, fulvo-aurantiâ aut ferrugineâ, anfractibus planulatis, sulco supernè divisis, ad marginem crenatis, interstitiis tuberculis obtusis albidis gemmatis; aperturâ parvâ, columellâ reflexâ et contorto-recurvâ.*

THE NECKLACE TEREBRA. Shell acuminately turreted, fulvous-orange or rust-tinged, whorls flattened, divided at the upper part by a groove, crenated at the margin, gemmed in the interstices with whitish obtuse tubercles; aperture small, columella reflected and twistedly recurved.

QUOY and GAIMARD, Voy. de l'Astrol. vol. ii. p. 467, pl. 36, f. 21, 22.

Hab. Marquesas and Society Islands.

An interesting species, characterized by a coronation of white tubercles on a fulvous-orange ground. As the tubercles become indistinct the species passes through the variety Fig. 42 *b* into *T. cingulifera.*

Species 43. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA BABYLONIA. *Ter. testâ acuminato-turritâ, fulvo-rufescente, aurantio tinctâ, opaco-albo partim encausticâ, anfractibus plano-convexis, variè decussatim sulcato-striatis; aperturâ parvâ, columellâ reflexâ et contorto-recurvâ.*

THE BABYLONIAN TEREBRA. Shell acuminately turreted, fulvous-red, orange-tinged, partially enamelled with opaque-white, whorls flatly convex, variously decussately groove-striated; aperture small, columella reflected and twistedly recurved.

LAMARCK, Anim. sans vert. vol. x. p. 243.

Terebra striata, Gray.

Hab. China; Dr. Cantor. Tahiti (in coral sand on the reefs); Cuming.

The ground colour of this species is a bright fulvous orange-red, and it is covered, to where one whorl rests upon the other, with a coating of pinkish opaque-white, which is scratched through by the decussating striæ. The striæ are more open in some specimens than in others.

Species 44. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA CINGULIFERA. *Ter. testâ acuminato-turritâ, interdum gracili, sordidè albâ vel lutescente-ferrugineâ, anfractibus lævibus, spiraliter superficialiter sulcato-striatis, striis minutè punctatis, margine suturali densè obliquè crenulato; aperturâ parvâ, columellâ rectâ, ad basim subrecurvâ.*

THE GIRDLED TEREBRA. Shell acuminately turreted, sometimes slender, dead-white or yellowish-rust, whorls smooth, spirally superficially groove-striated, striæ finely punctured, sutural margin closely obliquely crenulated; aperture small, columella straight, a little recurved at the base.

LAMARCK, Anim. sans vert. vol. x. p. 247.

Terebra punctulata, Sowerby.
Terebra punctatostriata, Gray.
Terebra crenifera, Deshayes.
Terebra pallida, Deshayes.
Terebra columnaris, Deshayes.
Terebra Chinensis, Deshayes.

Hab. Philippine and Marquesas Islands, China, etc.

A plain, yellowish-white shell, encircled with minutely punctured grooved striæ, and finely densely crenulated at the sutural margin in an oblique manner. The species has no marking. The shell represented at Fig. 44 *a* is the type of M. Deshayes' *T. pallida.*

Species 45. (Mus. Deshayes.)

TEREBRA DESHAYESII. *Ter. testâ tereti, aurantio-rufâ, maculis obliquè quadratis albis subobscurè biseriatim tessellatâ, anfractibus subplanatis, sulcis conspicuè pertusis tribus spiraliter cingulatis, rugis tenuibus numerosis densè concentricè decussatis, margine crenulato; aperturâ subangustâ, columellâ rectâ, reflexâ, ad basin contorto-reflexâ.*

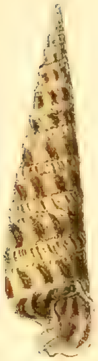
DESHAYES' TEREBRA. Shell terete, orange-red, somewhat obscurely tessellated with obliquely square white spots, whorls rather flat, encircled with three conspicuously pricked grooves, closely concentrically decussated with numerous fine wrinkles; aperture rather narrow, columella straight, reflected, twistedly recurved at the base.

Hab. —— ?

Among the specimens of *Terebra* kindly forwarded to me by M. Deshayes, I have been rejoiced to find two of a very characteristic new species, which I have the pleasure of distinguishing by his name. It approaches nearest to *T. Babylonia* in general resemblance, but in detail it is altogether different. The ground colour is a warm orange-red, and it is tessellated next the suture with obliquely square spots of pinkish-white. Each whorl is encircled with three distinct linear grooves, which are pricked throughout, and they are decussated with fine close-set concentric wrinkles flowing from the crenules of the sutural margin.

May, 1860.

Terebra Pl. XII.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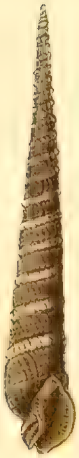
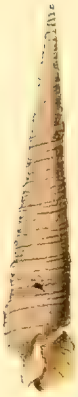

47 a.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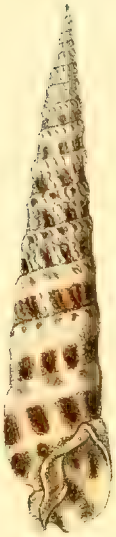
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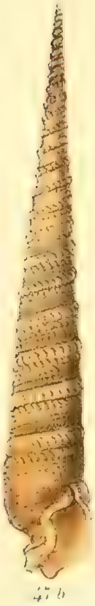
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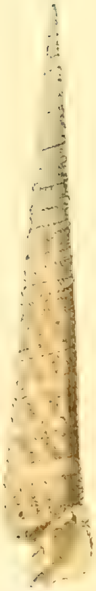
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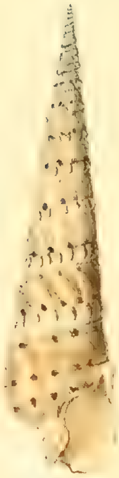

51

Sowerby, del et lith

Vincent Br

TEREBRA.

Plate XII.

Species 46. (Mus. Deshayes.)

Terebra histrio. *Ter. testâ subobeso-subulatâ, albo-lutescente, maculis longitudinalibus castaneo-purpureis undatis pictâ, juxta suturam lineis purpureo-rufis fimbriatâ, maculis in anfractu ultimo ad peripheriam interruptis, anfractibus subplanulatis, sulco divisis, ad marginem crenato-granatis, granis ætate producentibus; aperturâ parvâ, columellâ brevi, abruptè valdè contortâ.*

The harlequin Terebra. Shell rather stoutly subulate, whitish yellow, painted with longitudinal waved chestnut-purple spots, next the suture filled with purple-red lines, spots in the last whorl interrupted at the periphery, whorls rather flat, divided by a groove, crenately grained at the margin, grains lengthening with age; aperture small, columella short, abruptly much twisted.

Deshayes, Pro. Zool. Soc. 1859, p. 308.

Hab. ——?

This species, from the collection of M. Deshayes, and of which Mr. Cuming also possesses an example, belongs to the same type as *T. corrugata*, from which it differs in being more obtuse and smooth, and in being composed of much fewer whorls.

Species 47. (Fig. *a*, *b*, Mus. Cuming.)

Terebra straminea. *Ter. testâ acuminato-turritâ, gracili, fulvescente aut livido-cinereâ, anfractibus spiraliter tenuiliratis, interstitiis subexcavatis, sulco supernè divisis, supra et partim infra sulcum densè obliquè crenatis; aperturâ subangustâ, columellâ reflexâ, ad basin subcontorto-recurvâ.*

The straw-coloured Terebra. Shell acuminately turreted, slender, fulvous or livid-ash, whorls spirally finely ridged, interstices rather excavated, divided round the upper part by a groove, densely obliquely crenated above the groove and partially below it; aperture rather narrow, columella reflected, somewhat twistedly recurved at the base.

Gray, Pro. Zool. Soc. 1834, p. 62.

Terebra circinata, Deshayes.

Terebra acuta, Deshayes.

Hab. Philippine Islands (dredged from a depth of from twenty-five to thirty fathoms), Cuming; and China.

This species varies from the fulvous straw-colour of the original type to a deep livid-ash, and the specimens of the latter colour are smaller. M. Deshayes' *T. circinata* is the livid variety, represented at Fig. 47 *a*, and his *T. circinata* is a variety in which the encircling collar of oblique crenations is partially obsolete. The shell is sometimes faintly brown-banded, and the crenations have frequently a milky appearance.

Species 48. (Mus. Cuming.)

Terebra funiculata. *Ter. testâ acutè turritâ, fulvescente-albâ, costis pallidioribus, anfractibus spiraliter costatis, interstitiis subprofundè excavatis, pertusis, costâ supremâ latiore, sulco divisâ; aperturâ parvâ, columellâ brevi, contortâ.*

The corded Terebra. Shell sharply turreted, fulvous-white, ribs paler, whorls spirally ribbed, interstices rather deeply excavated, pricked, uppermost rib broader, divided by a groove; aperture small, columella short, twisted.

Hinds, Pro. Zool. Soc. 1843, p. 153.

Terebra Archimedis, Deshayes.

Hab. Marquesas Islands.

Chiefly characterized by its screw-like succession of strong encircling ribs, the interstices between which are finely pricked. The ribs are frequently smooth and shining, standing out in conspicuous relief.

Species 49. (Mus. Cuming.)

Terebra formosa. *Ter. testâ subulato-turritâ, solidâ, albâ, maculis quadratis rufo-castaneis biseriatim pictâ, quarum superioribus multo minoribus, anfractibus planulatis, indivisis, obliquè longitudinaliter corrugato-plicatis, plicis biseriatim granatis, anfractu ultimo et penultimo convexioribus, plicis evanidis; aperturâ subangustâ, columellâ crassâ, contorto-recurvâ.*

The beautiful Terebra. Shell subulately turreted, solid, white, painted with two rows of square reddish-chestnut spots, of which the upper ones are much the smaller, whorls flat, undivided, obliquely longitudinally wrinkle-plaited, plaits marked by two rows of grains, last and penultimate whorls more convex, the plaits faded away; aperture rather narrow, columella thick, twistedly recurved.

DESHAYES, Journ. de Conch. 1837.
Hab. Panama.

This shell, known only by the single specimen here figured, partakes very much of the characters of *T. flammea* and *lingualis*. It would, however, be premature to pronounce it a variety of either species. It is not in the best condition, and further specimens are needed before offering any very critical comment upon its specific value.

Species 50. (Mus. Cuming.)

TEREBRA LIMA. *Ter. testâ elongato-turritâ, flavicante-albâ, flammis pallidissimè ferrugineis tinctâ, circa columellam fasciatâ; anfractibus numerosis, subangustis, undique decussatim granoso-liratis, supernè sulco divisis, margine crenulatis; aperturâ parvâ, columellâ brevi, contorto-recurvâ.*

THE FILE TEREBRA. Shell elongately turreted, yellowish-white, painted with very pale rust flames, banded around the columella, whorls numerous, rather narrow, decussately grain-ridged throughout, divided at the upper part by a groove, crenulated at the margin; aperture small, columella short, twistedly recurved.

DESHAYES, Journ. de Conch. 1837.
Hab. China Seas.

An excellent species, elaborately rasped throughout with a decussation of granular ridges, and painted with faint rust flames, which become rather darker towards the aperture.

Species 51. (Mus. Cuming.)

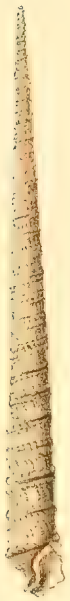
TEREBRA INTERLINEATA. *Ter. testâ subulatâ, versus basim obesiusculâ, flavicante-albâ, sanguineo-roseo pallidissimè flammatâ, punctis rufis biseriatim, in anfractu ultimo conspicuè triseriatim, pictâ, lineis rufis internodosis marginalibus, anfractibus convexis, concentricè densè corrugato-plicatis, supernè sulco latè divisis, ad marginem tuberculato-nodatis; aperturâ oblongâ, effusâ, columellâ obesâ, brevi, subrectâ.*

THE INTERLINED TEREBRA. Shell subulate, rather stout towards the base, yellowish-white, very faintly flamed with blood-rose, and painted with two, in the last whorl conspicuously three, rows of red dots, and red lines between the marginal nodules, whorls convex, concentrically closely wrinkle-plaited, broadly divided by a groove at the upper part, tubercularly noduled at the margin; aperture oblong, effused, columella stunt, short, nearly straight.

DESHAYES, Pro. Zool. Soc. 1859, p. 277.
Hab. Sandwich Islands.

Of this species the shell represented is the only specimen known, but it is a very characteristic and well-marked one. The marking a little resembles that of the larger *T. crenulata*, but in form and detail of sculpture it belongs almost to another sectional type.

Terebra Pl. XIII.



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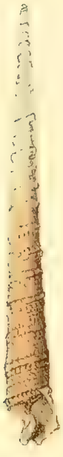

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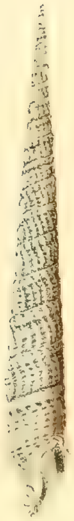

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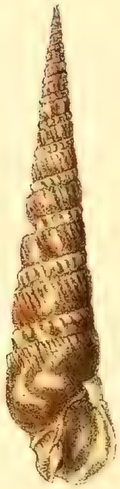

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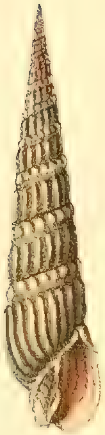

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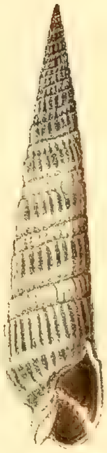

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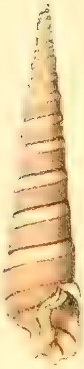

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Sowerby, del et lith

Vincent Brooks, Imp

TEREBRA.

Plate XIII.

Species 52. (Fig. *a*, *b*, Mus. Cuming.)

Terebra triseriata. *Ter. testâ prælongâ, gracillimi, fulvo-albidâ vel stramineâ, anfractibus numerosissimis, plano-concavis, spiraliter liratis, interdum concentricè granoso-decussatis, supernè granis amplis biseriatim gemmatis, infernè seriè unicâ minore, anfractu ultimo ad basin plus minus angulato; aperturâ parvâ, columellâ contorto-recurvâ.*

The three-girt Terebra. Shell very long, very slender, fulvous-white or straw-colour, whorls very numerous, flatly concave, spirally ridged, sometimes concentrically granosely decussated, beaded round the upper part with two rows of large grains, round the lower with a single smaller row, last whorl more or less angled at the base; aperture small, columella twistedly recurved.

Gray, Pro. Zool. Soc. 1834, p. 61.

Hab. Island of Ticao, Philippine Islands (in coral sand at a depth of six fathoms); Cuming.

We have adopted M. Deshayes' *T. prælonga* from Port Curtis, Australia, but have much reason to suspect that it is a local variety of the *T. triseriata*. In arranging the types side by side it is impossible to draw a line between them. Those of larger size and darker colour, from Australia, in which the sculpture is more developed, are assigned to *T. prælonga;* while the Philippine forms, of more delicate and slender growth, more concavely flattened, with the granulated sculpture more obscure, agree with the originally described *T. triseriata*.

Species 53. (Mus. Cuming.)

Terebra Fortunei. *Ter. testâ elongato-turritâ, gracili-pyramidali, candidâ, anfractibus subconvexis, supernè sulco pertuso divisis, concentricè validè costatis, interstitiis liris spiralibus clathratis, suturis profundis; aperturâ parvâ, columellâ subproductâ et contorto-recurvâ.*

Fortune's Terebra. Shell elongately turreted, somewhat slenderly pyramidal, white, whorls slightly convex, divided at the upper part by a pricked groove, concentrically strongly ribbed, interstices latticed with spiral ridges, sutures deep; aperture small, columella somewhat produced and twistedly recurved.

Deshayes, Journ. de Conch. 1857.

Hab. China Seas; Fortune.

This shell, collected by the well-known traveller after whom M. Deshayes has named it, is unique in the collection of Mr. Cuming. Its slender pyramidal form and varicose plan of sculpture render it a very characteristic species.

Species 54. (Mus. Cuming.)

Terebra trochlea. *Ter. testâ subulato-turritâ, ad basin subventricosâ, albidâ, spadiceo multo tinctâ et marmoratâ, ad marginem punctulatâ, anfractibus latis, planiusculis, supernè sulco lato impresso divisis, deinde angulato-plicatis; aperturâ ovatâ, subeffusâ, columellâ arcuatâ, obesâ, parum contortâ.*

The pulley Terebra. Shell subulately turreted, somewhat ventricose at the base, whitish, much stained and mottled with fawn, faintly dotted at the margin, whorls broad, rather flat, divided at the upper part by a broad impressed groove, then angularly plicated; aperture ovate, somewhat effused, columella arched, stout, but little twisted.

Deshayes, Journ. de Conch. 1857.

Hab. Zanzibar.

Another very characteristic species, marbled with fawn upon a white ground, leaving the white in a double row of faint spots. The groove encircling the upper part of the whorls is unusually broadly impressed.

Species 55. (Mus. Cuming.)

Terebra evoluta. *Ter. testâ subulato-turritâ, livido-cinereâ, costis granisque albidis, ad marginem fusco-rufo punctatâ, anfractibus plano-convexis, ad marginem granatis, deinde concavo-sulcatis, deinde angulatè plicato-costatis; aperturâ oblongâ, columellâ subrectâ.*

The unfolded Terebra. Shell subulately turreted, livid-ash, ribs and grains whitish, dotted at the margin with fuscous-red, whorls flatly convex, grained at the margin, then concavely grooved, then angularly plicately ribbed; aperture oblong, columella nearly straight.

Deshayes, Pro. Zool. Soc. 1859, p. 292.

Hab. Japan.

A much less satisfactory species than either of the last

May, 1860.

two. It is described from a single specimen in Mr. Cuming's collection which seems to pass through a state, well illustrated by another single specimen in the Cumingian collection, into *T. Dussumieri.*

Species 56. (Mus. Cuming.)

Terebra Bernardii. *Ter. testâ subulatâ, griseo-plumbeâ, obscurè albifasciatâ, anfractibus convexis, subventricosis, tenuè plicato-costatis, costis valdè coarctatis, supernè latè impressis; aperturâ ovatâ, fauce castaneâ, columellâ obesâ, brevi, castaneâ.*

Bernardi's Terebra. Shell subulate, greyish lead-colour, obscurely white-banded, whorls convex, slightly ventricose, thinly plicately ribbed, ribs very crowded, broadly impressed round the upper part; aperture ovate, interior chestnut, columella rather stout, short, chestnut.

Deshayes, Journ. de Conch. 1857.

Hab. Moreton Bay, east coast of Australia.

This shell belongs to the same type as *T. duplicata*, and is very closely allied to that species. Its most prominent characteristic is the delicate ventricose form of the whorls.

Species 57. (Mus. Cuming.)

Terebra tricolor. *Ter. testâ gracili-turritâ, aurantio-spadiceâ, interdum albo-marginatâ, lineis tribus rufis distantibus cingulatâ, anfractibus plano-convexis, primis subcrenulatis, cæteris lævibus; aperturâ parvâ, columellâ contorto-recurvâ.*

The tricoloured Terebra. Shell slenderly turreted, orange-fawn, sometimes edged with white, encircled with three distant red lines, whorls flatly convex, the first slightly crenulated, the rest smooth; aperture small, columella twistedly recurved.

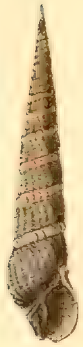
Sowerby, Tankerville Cat. App. p. 24.

Terebra tæniolata, Quoy.

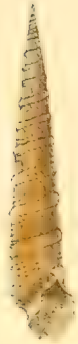
Hab. Tongataboo, Friendly Islands.

This species, which is very characteristic in its typical state, encircled with three distant orange-red lines, differs very little from some varieties of *T. cingulifera.*

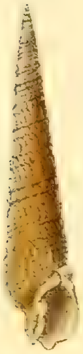
Terebra Pl. XIV.



58 *a*



58 *b*



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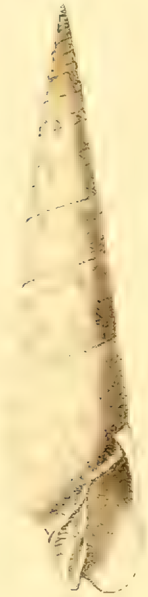

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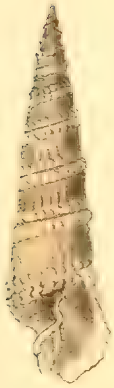

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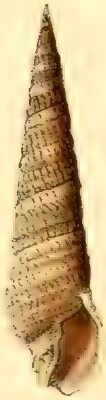

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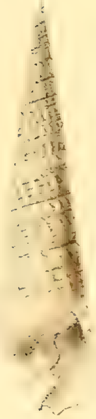


63

TEREBRA.

Plate XIV.

Species 58. (Fig. *a*, *b*, Mus. Cuming.)

Terebra cancellata. *Ter. testâ acutè tereti, fulvâ vel livido-griseâ, vel cinereâ, anfractibus plano-convexis, supernè sulco divisis, costis obliquè concentricis, ad marginem crenatis, confertim regulariter exsculptis, interstitiis lineis tenuibus elevatis cancellatis; aperturâ parvâ, columellâ subrectâ.*

The cancellated Terebra. Shell sharply terete, fulvous or livid-grey or ash, whorls flatly convex, divided by a groove at the upper part, closely regularly sculptured with obliquely crenated ribs, crenated at the margin, interstices cancellated with fine raised lines; aperture small, columella nearly straight.

Quoy and Gaimard, Voy. de l'Astrolabe, Moll. vol. ii. p. 471. pl. 36. f. 27, 28.

Hab. Philippine Islands (in sandy mud, at depths of from six to twenty-five fathoms); Cuming.

In the livid-grey variety of this species the columella and aperture are of a bright shining chestnut-colour.

Species 59. (Mus. Cuming.)

Terebra flavescens. *Ter. testâ acutè tereti, flavescente, anfractibus plano-convexis, supernè sulco divisis, concentricè densè costatâ, costis ad marginem crenatis, interstitiis sulcis tenuibus linearibus cancellatis; aperturâ parvâ, columellâ contorto-recurvâ.*

The yellowish Terebra. Shell sharply terete, yellowish, whorls flatly convex, divided by a groove at the upper part, concentrically closely ribbed, ribs crenated at the margin, interstices cancellated with fine linear grooves; aperture small, columella twistedly recurved.

Deshayes, Pro. Zool. Soc. 1859, p. 299.

Hab. Sandwich Islands; Pease.

This species is remarkably like the preceding, but it will be observed on comparing them that in *T. cancellata* the columella is straight, while in *T. flavescens* it is contracted and twistedly recurved.

Species 60. (Mus. Cuming.)

Terebra cingula. *Ter. testâ obeso-subulatâ, crassâ, spadiceâ, fulvo-castaneo maculatâ, interruptè fasciatâ, anfractibus convexo-planis, primis sulco divisis et confertim plicato-liratis, cæteris lævibus; aperturâ suboblongâ, columellâ crassâ, rectâ.*

The girth Terebra. Shell stoutly subulate, thick, fawn-colour, encircled with blotches and interrupted bands of fulvous-chestnut, whorls convexly flattened, the first divided by a groove, and closely plicately ridged, the rest smooth; aperture somewhat oblong, columella thick, straight.

Kiener, Icon. spes. viv. p. 28. pl. 8. f. 16.

Terebra fatua, Hinds.

Hab. Island of St. Christopher, West Indies (on the sand); Miller.

The shell here figured is the type of Mr. Hinds' *T. fatua*. On further examination and comparison, I find it to be a large discoloured specimen of M. Kiener's *T. cingula*, which has been quoted in Plate V. as a smooth variety of *T. Senegalensis.* The question arises,—Is *T. cingula*, now that we know its habitat to be the West Indies, a species really distinct from *T. Senegalensis?* The habitat furnishes no evidence of its distinctness, because, as we have remarked in Plate IV., under *T. variegata*, "it is well known to those who have studied the geographical distribution of animal life, that the Fauna of the West African seas north of Sierra Leone, is in part identical with the Fauna of the seas of California and the West Indies." In the absence of further observation, however, we venture to describe *T. cingula* under the present head, as a species, and withdraw it from the list of synonyms of *T. Senegalensis*, which is of a somewhat lighter structure and more ventricose; but the question remains open to doubt.

Species 61. (Mus. Cuming.)

Terebra tuberculosa. *Ter. testâ pyramidali-subulatâ, tenuiculâ, pellucido-cinereâ, versus apicem livido-purpurascente, juxta suturam obscurè rufo-punctatâ, anfractibus declivo-planatis, supernè sulco divisis, ad marginem conspicuè funiculatis et tuberculato-granatis, infra sulcum lævigatâ, nitente, deinde longitudinaliter seriatim granatis; aperturâ arcuatim oblongâ, columellâ contorto-recurvâ et liratâ.*

The tubercled Terebra. Shell pyramidally subulate, rather thin, transparent-ash, livid-purple towards the apex, obscurely red-spotted next the suture, whorls slopingly flattened, divided at the upper part by a groove, conspicuously corded and tubercularly grained at the margin, beneath the groove smooth, shining, then grained in longitudinal rows; aperture arcuately oblong, columella twistedly recurved and ridged.

HINDS, Pro. Zool. Soc. 1843, p. 154. Thes. Conch. pl. 43. f. 48.

Hab. Panama (in sandy mud, at a depth of from four to eleven fathoms); Cuming. San Blas, California; Hinds.

Well distinguished by its spiral collar of tubercles, and smoothness beneath, followed by delicate rows of granules extending longitudinally to the base.

Species 62. (Mus. Cuming.)

TEREBRA BIFRONS. *Ter. testâ subulatâ, spadiceo-fuscâ, obscurè rufescente-fasciatâ, anfractibus convexis, indivisis, granulis pallidis quadriseriatim cinctis, anfractu ultimo multigranato; aperturâ ovatâ, fauce castaneo tinctâ, columellâ brevi, rectâ.*

THE TWO-FACED TEREBRA. Shell subulate, fawn-brown, obscurely rufous-banded, whorls convex, undivided, encircled with four rows of pale granules, last whorl many-grained; aperture ovate, chestnut-tinged within, columella short, straight.

HINDS, Pro. Zool. Soc. 1843, p. 155.

Hab. Japan (in sandy mud in deep water); Dr. Siebold.

A rather dull fawn-brown shell, faintly stained with a reddish band, and encircled with granules, which appear in pale relief. In place of the usual groove encircling the upper part of the whorls, there is only the merest concavity.

Species 63. (Mus. Cuming.)

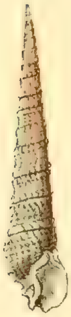
TEREBRA SOWERBYANA. *Ter. testâ subulato-turritâ, versus basin subventricosâ, eburneâ, carneo pallidè fasciatâ, anfractibus declivi-convexis, supernè sulco impresso latè divisis, longitudinaliter undato-plicatis, plicis distantibus, interstitiis sulcis tenuibus linearibus clathratis; aperturâ arcuato-oblongâ, columellâ productâ, valdè contortâ.*

SOWERBY'S TEREBRA. Shell subulately turreted, rather ventricose towards the base, ivory-white, encircled with pale flesh tint, whorls slopingly convex, broadly divided round the upper part by an impressed groove, longitudinally wave-plicated, plaits distant, interstices latticed with fine linear grooves; aperture arcuately oblong, columella produced, very much twisted.

DESHAYES, Journ. de Conch. 1857.

Hab. Mouth of the Gambia, West Africa (in sandy mud at low water); Mr. Deal.

A delicate *Cerithium*-like shell, chiefly distinguished by the widely separated arrangement of the longitudinal plaits.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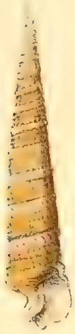
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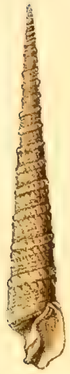
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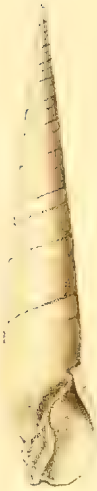
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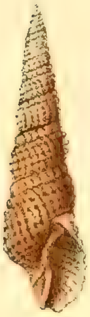
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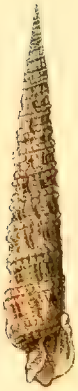
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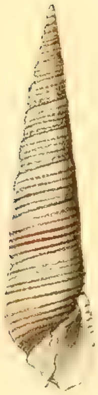
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del et lith

Vincent Brooks,

TEREBRA.

Plate XV.

Species 64. (Mus. Cuming.)

Terebra cælata. *Ter. testâ acutè tereti, pellucido-albâ, anfractibus plano-convexis, supernè sulco divisis, utrinque sulcum obliquè granatis, undique profundè clathrato-cœlatis; aperturâ parvâ, columellâ contorto-recurvâ.*

The carved Terebra. Shell sharply terete, transparent-white, whorls flatly convex, divided by a groove at the upper part, obliquely grained on each side the groove, deeply lattice-carved throughout; aperture small, columella twistedly recurved.

Adams and Reeve, Moll. Voy. Samarang, p. 30. pl. 10. f. 22.

Hab. China; Belcher.

Remarkable for the high relief in which the elaborate lattice-work of this species is carved throughout.

Species 65. (Mus. Cuming.)

Terebra albo-marginata. *Ter. testâ acutè turritâ, vividè aurantiâ, albo-marginatâ, anfractibus planis, superne sulco divisis, utrinque sulcum obliquè crenatis, deinde spiraliter liratis, interstitiis pertusis; aperturâ parvâ, columellâ contorto-recurvâ.*

The white-edged Terebra. Shell sharply turreted, bright-orange, edged with white, whorls flat, divided at the upper part by a groove, obliquely crenated on each side the groove, then spirally ridged, the interstices pricked; aperture small, columella twistedly recurved.

Deshayes, Pro. Zool. Soc. 1859, p. 314.

Hab. Australia; Cuming.

Very conspicuous in respect of colour, the shell being bright-orange, except round the margin of the whorls, where it is edged with white, and encircled throughout with ridges, the interstices between which are pricked.

Species 66. (Mus. Cuming.)

Terebra serotina. *Ter. testâ acutè turritâ, fulvescente-albâ, subpellucidâ, anfractibus planis, subventricosis, spiraliter striato-liratis, superne biseriatim grano-gemmatis; aperturâ parvâ, columellâ subproductâ, contorto-recurvâ.*

The wreathed Terebra. Shell sharply terete, fulvous-white, somewhat transparent, whorls flat and rather ventricose, spirally striately ridged, gemmed round the upper part with two rows of granules; aperture small, columella rather produced and twistedly recurved.

Adams and Reeve, Moll. Voy. Samarang, p. 30. pl. 10. f. 20.

Hab. Japan; Belcher.

This little Japanese species, collected by Captain Sir Edward Belcher during the voyage of the 'Samarang,' belongs to the same delicately carved type as *T. straminea* and *triseriata.* The shell is composed of fewer whorls than either of those species.

Species 67. (Mus. Cuming.)

Terebra pura. *Ter. testâ elongato-subulatâ, nitente-albâ, anfractibus latis, convexiusculis, supernè sulco impresso obsoletè divisis, obliquè concentricè plicatis, plicis subdistantibus, tenuibus, versus aperturam gradatim evanidis; aperturâ oblongo-ovatâ, columellâ subrectâ.*

The pure Terebra. Shell elongately subulate, shining white, whorls broad, rather convex, obsoletely divided at the upper part by an impressed groove, obliquely concentrically plaited, plaits rather distant, thin, gradually fading towards the aperture; aperture oblong-ovate, columella nearly straight.

Deshayes, Journ. de Conch. 1857.

Hab. Zanzibar.

Of the same type as *T. Senegalensis,* from the opposite side of the African continent, the characteristics of the species being all very feebly developed.

Species 68. (Mus. Cuming.)

Terebra radula. *Ter. testâ subulato-turritâ, castaneo-rufescente, subindistinctè albo-marginatâ, anfractibus subrotundatis, undique validissimè granoso-clathratis, supernè sulco divisis; aperturâ ovatâ, columellâ vix rectâ.*

The rasp Terebra. Shell subulately turreted, chestnut-red, rather indistinctly white-margined, whorls somewhat rounded, very strongly grain-latticed throughout, divided at the upper part by a groove; aperture ovate, columella nearly straight.

Hinds, Pro. Zool. Soc. 1843, p. 155.

May, 1860.

Hab. Puerto Portrero, west coast of Central America (dredged from coral sand, at the depth of thirteen fathoms); Cuming.

This species, described from a unique specimen in the collection of Mr. Cuming, has a remarkably strongly-grained surface throughout.

Species 69. (Mus. Cuming.)

Terebra torquata. *Ter. testâ acuminato-turritâ, spadiceâ, fuscescente latè interruptè fasciatâ, anfractibus plano-concavis, validè crebrè clathratis, supernè biseriatim tuberculato-granatis; aperturâ parvâ, columellâ contorto-recurvâ.*

The collar-bound Terebra. Shell acuminately turreted, fawn-coloured, broadly interruptedly banded with light-brown, whorls concavely flattened, strongly closely latticed, encircled round the upper part with two rows of tubercular grains; aperture small, columella twistedly recurved.

Adams and Reeve, Moll. Voy. Samarang, p. 30. pl. 10. f. 13.

Hab. Nagasaki Bay, Japan; Belcher.

A very characteristic species, very strongly latticed throughout, while the whorls are surmounted by a conspicuous double collar of tubercular grains.

Species 70. (Mus. Cuming.)

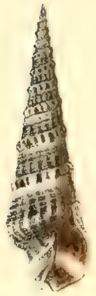
Terebra circumcincta. *Ter. testâ subcylindraceo-turritâ, solidiusculâ, albâ, strigis nonnullis raris flavidulis irregulariter sparsâ, anfractibus plano-convexis, indivisis, sulcis linearibus pertusis, quatuor ad sex, æquidistantibus cingulatis; aperturâ parvâ, columellâ brevi, rectâ.*

The cinctured Terebra. Shell somewhat cylindrically turreted, rather solid, white, irregularly sprinkled with a few, scarce, yellowish streaks, whorls flatly convex, undivided, encircled with four to six equidistant pricked linear grooves; aperture small, columella short, straight.

Deshayes, Journ. de Conch. 1857.

Hab. Red Sea. Port Curtis, Australia; Stutchbury.

A very distinct species, with somewhat the aspect of a Mitre. The whorls, which are not divided at the upper part, are encircled throughout at regular distances with narrow, deeply excavated, linear, pricked grooves.



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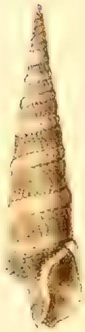

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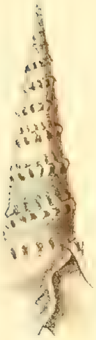

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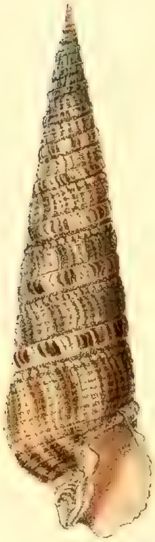

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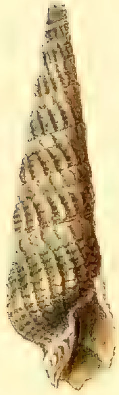

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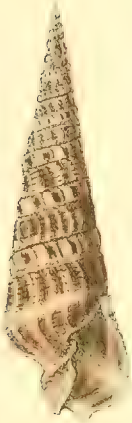

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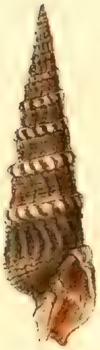


72 b

Vincent Brooks Imp

TEREBRA.

Plate XVI.

Species 12. (Fig. *b*, *c*, Mus. Cuming;
Fig. *d*, *e*, Mus. Deshayes.)

TEREBRA VARIEGATA. In describing this species at Plate IV. I have remarked on the variable character of its growth, and quoted as synonyms as many as seven other species of different authors. I now give figures of four of the most striking forms. Fig. 12 *b* represents a variety from the mouth of the Gambia, West Africa, named *intertincta* by Mr. Hinds and *marginata* by M. Deshayes; and the shell Fig. 12 *c* is a lighter variety of the same form from the same locality. These pass by almost insensible gradations into the noduled variety of *T. armillata*, Fig. 72 *b*, which is a native of Panama, and are scarcely distinguishable from a variety inhabiting California, named by Mr. Carpenter *Myurella albocincta*.

The varieties of *T. variegata*, represented at Fig. 12 *d* and 12 *e*, from the collection of M. Deshayes, illustrate the form of this species which has the nearest relationship with *T. aspera*, and are identical with specimens marked by Mr. Hinds in Mr. Cuming's collection "*T. aspera*, var.," collected by him at Monte Christi, West Columbia.

Species 71. (Mus. Cuming.)

TEREBRA PULCHELLA. *Ter. testâ subulato-turritâ, flavescente-spadiceâ, ferrugineo sparsim tinctâ, basi albo cinctâ, anfractibus concavo-planatis, longitudinaliter arcuatim tenuiplicatis, sulco supernè divisis, sulco utroque latere crenato, margine prominente, tumido; aperturâ oblongâ, columellâ subrectâ, ad basin paululum recurvo.*

THE PRETTY TEREBRA. Shell subulately turreted, yellowish-fawn, sparingly stained with rust, base banded with white, whorls concavely flattened longitudinally arcuately finely plicated, divided at the upper part by a groove, crenated on each side of the groove, margin prominent, swollen; aperture oblong, columella nearly straight, a little recurved at the base.

DESHAYES, Journ. de Conch. 1857.

Hab. China Seas.

The whorls of this species are peculiarly concave and arcuately plaited, and the margin, which is divided off by the encircling groove, has a swollen appearance.

Species 72. (Fig. *a*, Mus. Deshayes;
Fig. *b*, Mus. Cuming.)

TEREBRA ARMILLATA. *Ter. testâ subulato-turritâ, fusca aut lividâ, ferrugineo et albo obscurè fasciatâ et maculatâ, anfractibus declivi-concavis, longitudinaliter irregulariter plicatis, spiraliter liratis et sulcatis, sulco supernè divisis, margine prominulo, interdum validè oblique nodulatis; aperturâ oblongâ, columellâ contorto-recurvâ.*

THE BRACELET-ENCIRCLED TEREBRA. Shell subulately turreted, brown or livid, obscurely banded and spotted with rust and white, whorls slopingly concave, longitudinally irregularly plicated, spirally ridged and grooved, divided by a groove at the upper part, margin prominent, sometimes strongly obliquely noduled; aperture oblong, columella twistedly recurved.

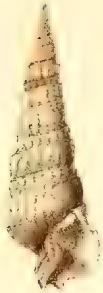
HINDS, Pro. Zool. Soc. 1843, p. 154.

Terebra albicostata, Adams and Reeve.

Hab. Panama and Galapagos Islands (in sandy mud, at a depth of from five to twelve fathoms); Cuming.

It is somewhat doubtful whether this is not a variety of *T. variegata*. The specimen from M. Deshayes' collection is identical with specimens collected by Mr. Cuming at the Galapagos Islands. The strongly noduled dark variety is from Panama.

Terebra Pl. XVII.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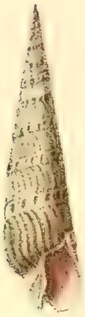
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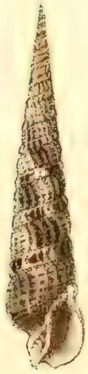
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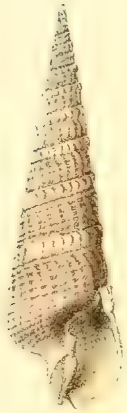
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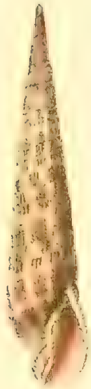
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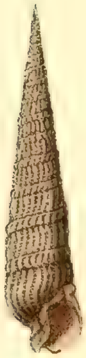
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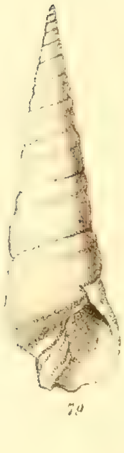
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TEREBRA.

Plate XVII.

Species 73. (Mus. Cuming.)

Terebra ustulata. *Ter. testâ conico-subulatâ, pallidè castaneâ, vel albidâ ad basin pallidè castaneâ, anfractibus convexis, longitudinaliter confertim plicatis, supernè latè profundè impressis; aperturâ ovatâ, columellâ subcontortâ.*

The scorched Terebra. Shell conically subulate, pale chestnut, or white stained with pale chestnut at the base, whorls convex, longitudinally closely plaited, broadly deeply impressed round the upper part; aperture ovate, columella slightly twisted.

Deshayes, Journ. de Conch. 1857.

Hab. Tasmania.

The upper portion of the whorls of this species are characterized by an unusually broad excavated depression.

Species 74. (Mus. Cuming.)

Terebra Dillwynii. *Ter. testâ conico-subulatâ, subcylindraceâ, fulvescente-carneâ, infra suturam purpureo maculatâ, anfractibus declivi-convexis, undique longitudinaliter tenuiplicatis, sulco supernè divisis, plicis albidis; aperturâ quadrato-ovatâ, columellâ brevi, contortâ.*

Dillwyn's Terebra. Shell conically subulate, somewhat cylindrical, yellowish flesh-tint, purple-spotted beneath the suture, whorls slopingly convex, longitudinally finely plicated throughout, divided at the upper part by a groove, plaits whitish; aperture squarely ovate, columella short, twisted.

Deshayes, Journ. de Conch. 1857.

Hab. Japan.

A delicately sculptured and delicately painted species, partaking, however, somewhat of the character and general aspect of *P. Senegalensis.*

Species 75. (Mus. Cuming.)

Terebra specillata. *Ter. testâ gracilè turritâ, valdè acuminatâ, albidâ, livido-carneo sparsim ampliter tessellatâ, margine suturali rufo irregulariter maculato, anfractibus convexo-planis, liris undique clathratis, sulco supernè divisis; aperturâ parviusculâ, columellâ rectâ.*

The probe Terebra. Shell slenderly turreted, very acuminated, whitish, sparingly largely tessellated with livid flesh-colour, sutural margin irregularly spotted with red, whorls convexly flattened, everywhere latticed with ridges, divided at the upper part by an impressed groove; aperture rather small, columella straight.

Hinds, Pro. Zool. Soc. 1843, p. 155.

Hab. San Blas, Mexico (in seven fathoms, sandy mud); Hinds.

A somewhat roughly carved species, sparingly and more or less obscurely tessellated with large livid-flesh blotches, and spotted at the sutural margin with dark red.

Species 76. (Mus. Cuming.)

Terebra plicata. *Ter. testâ subulatâ, versus basin obesiusculâ, lutescente-albâ, pellucido-carneo pallidè fasciatâ, anfractibus declivi-planatis, ultimo tumido, longitudinaliter flexuosè tenuiplicatis, spiraliter subtilissimè pertuso-sulcatis, supernè sulco latè divisis; aperturâ suboblongâ, columellâ constrictâ, contorto-recurvâ.*

The plaited Terebra. Shell subulate, rather stout at the base, yellowish-white, faintly banded with transparent flesh-tint, whorls slopingly flattened, the last swollen, longitudinally flexuously thinly plicated, spirally very finely prick-grooved, broadly divided by a groove round the upper part; aperture rather oblong, columella constricted, twistedly recurved.

Gray, Pro. Zool. Soc. 1834, p. 61.

Hab. Guayaquil (in seven fathom s, sady mud); Cuming.

There is a transparent delicacy in this shell which cannot be conveyed by a figure; the plaits are whitish, upon a livid-flesh ground.

Species 77. (Mus. Cuming.)

Terebra raphanula. *Ter. testâ subcylindraceo-tereti, albidâ, maculis aurantiis longitudinaliter quadratis tessellatâ, margine suturali rufo punctato, nitente, anfractibus plano-convexis, supernè sulco acuto divisis, longitudinaliter densè plicatis, plicis in anfractu ultimo evanidis; aperturâ subangustâ, columellâ rectâ.*

The little radish Terebra. Shell somewhat cylin-

June, 1860.

drically terete, whitish, tessellated with longitudinally square orange spots, red-dotted at the sutural margin, shining, whorls flatly convex, divided at the upper part by a sharp groove, longitudinally closely puckered, the folds disappearing on the last whorl; aperture rather narrow, columella straight.

LAMARCK, Anim. sans vert. vol. x. p. 246.

Hab. Amboyna.

Partaking of the character of *T. cingula* and *Senegalensis*, but more slender and shining, and more distinctly tessellated with colour.

Species 78. (Mus. Cuming.)

TEREBRA SOULEYETI. *Ter. testâ elongato-acuminatâ, rufescente-griseâ, immaculatâ, anfractibus declivi-convexis, angustis, sulco pertuso supernè divisis, longitudinaliter densè flexuoso-costatis, interstitiis spiraliter elevato-striatis; aperturâ parvâ, columellâ brevissimâ, cylindraceo-contortâ.*

SOULEYET'S TEREBRA. Shell elongately acuminated, reddish-grey, unspotted, whorls slopingly convex, narrow, divided at the upper part by a pricked groove, longitudinally closely flexuously ribbed, interstices spirally elevately striated; aperture small, columella very short, cylindrically twisted.

DESHAYES, Pro. Zool. Soc. 1859, p. 303.

Hab. Gulf of Mexico.

A well-marked species, known only by a single specimen in the collection of M. Deshayes. It is crowded with flowing ribs, somewhat after the manner of *T. larvæformis*, and the encircling groove is represented by a row of deep pricks in the interstices. *T. difficilis* is very similar, with a less twisted columella.

Species 79. (Mus. Cuming.)

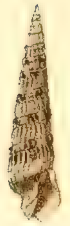
TEREBRA ALBIDA. *Ter. testâ subulatâ, ad basin ventricosâ, eburneâ, ferrugineo interdum pallidissimè tinctâ, anfractibus concavo-planatis, lævibus, ultimo rotundato, suturâ subacutâ; aperturâ ovatâ, subeffusâ, columellâ brevi, contortâ.*

THE WHITISH TEREBRA. Shell subulate, ventricose at the base, ivory-white, sometimes very faintly stained with rust, whorls concavely flattened, smooth, last whorl rounded, suture rather sharp; aperture ovate, rather effused, columella short, twisted.

GRAY, Pro. Zool. Soc. 1834, p. 63.

Hab. Australia.

The encircling groove of this species is a mere concave depression. The last whorl has a peculiar rounded form.



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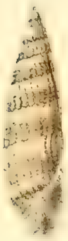

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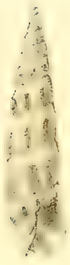

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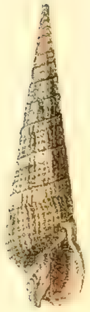

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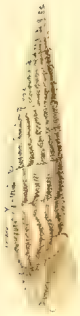

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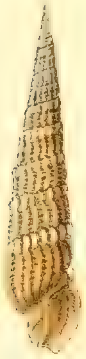

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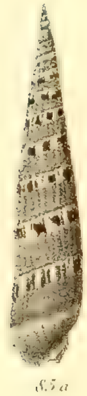

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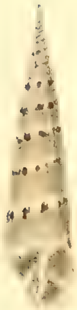

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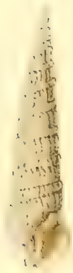

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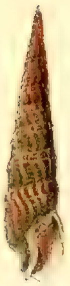

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TEREBRA.

Plate XVIII.

Species 80. (Mus. Cuming.)

Terebra amœna. *Ter. testâ turritâ, subangustâ, fulvâ, ad suturas albo rubroque alternatim maculatâ et fasciatâ, anfractibus convexo-planatis, longitudinaliter plicato-liratis, spiraliter lineari-sulcatis, sulco pertuso supernè divisis; aperturâ parviusculâ, columellâ parum contortâ.*

The pleasant Terebra. Shell turreted, rather narrow, yellowish, banded and alternately spotted at the sutures with white and red, whorls convexly flattened, longitudinally plicately ridged, spirally linearly grooved, divided at the upper part by a pricked groove; aperture rather small, columella but little twisted.

Deshayes, Journ. de Conch. 1857.

Hab. China Seas.

Described from a single specimen in Mr. Cuming's collection, in good condition, and apparently very distinct.

Species 81. (Fig. *a*, *b*, Mus. Cuming.)

Terebra hastata. *Ter. testâ elongato-cylindraceâ, basi carinatâ, interdum gracilè exsertâ, albâ, subporcellaneâ, fulvo-aurantio variè fasciatâ aut tessellatè strigatâ, anfractibus planatis, indivisis, supernè densè plicatis, plicis ad suturas productis, interdum in costis descendentibus; aperturâ parviusculâ, columellâ breviusculâ, appressè arcuatâ.*

The spear-like Terebra. Shell elongately cylindrical, keeled at the base, sometimes slenderly exserted, white, somewhat porcellaneous, variously banded or tessellately streaked with fulvous-orange, whorls flattened, undivided, closely plicated round the upper part, plaits produced at the sutures, sometimes descending in ribs; aperture rather small, columella rather short, appressly arched.

Buccinum hastatum, Gmelin, Syst. Nat. p. 3502.
Terebra hastata, Kiener.
Terebra costata, Menke.
Terebra albula, Menke.
Terebra casta, Hinds.
Terebra mera, Hinds.
Terebra incolor, Deshayes.
Terebra bipartita, Deshayes.
Terebra crassula, Deshayes.

Hab. Honduras. West Indies. Sandwich and Philippine Islands. Australia.

This widely-distributed species, varying in slenderness and definition of sculpture according to habitat, has been described seven times over. It is one of the few species that has no encircling groove.

Species 82. (Mus. Cuming.)

Terebra Bruguieri. *Ter. testâ pyramidali-turritâ, candidâ, ad apicem basinque roseâ, maculis grandibus aurantiis obscurè tessellatâ, anfractibus declivi-convexis, densissimè clathratis, supernè sulco latè divisis, ultimo subventricoso; aperturâ ovatâ, columellâ breviusculâ, contortâ.*

Bruguiere's Terebra. Shell pyramidally turreted, white, pink at the base and apex, obscurely tessellated with large orange blotches, whorls slopingly convex, very densely latticed, broadly divided at the upper part by a groove, last whorl rather ventricose; aperture ovate, columella rather short, twisted.

Deshayes, Pro. Zool. Soc. 1859, p. 297.
Terebra Hindsi, Deshayes (not of Carpenter).

Hab. China.

Very closely allied to *T. Peasei*, from the Sandwich Islands; indeed, it is not improbable that they may prove to be varieties of the same species.

Species 83. (Fig. 83 and 84, Mus. Deshayes.)

Terebra undulata. *Ter. testâ cylindraceo-elongatâ, apice acuminatâ, flavicante vel aurantiâ, ad suturam albinodosâ, anfractibus densè undato-costatis, supernè sulco pertuso divisis, costis tumidis, interstitiis angustis, pertuso-sulcatis; aperturâ parviusculâ, columellâ subrectâ.*

The waved Terebra. Shell cylindrically elongated, acuminated at the apex, yellowish or orange, white-noduled at the sutures, whorls densely wave-ribbed, divided at the upper part by a pricked groove, ribs swollen, interstices narrow, prick-grooved; aperture rather small, columella nearly straight.

Gray, Pro. Zool. Soc. 1834, p. 60.
Terebra approximata, Deshayes.

Hab. Philippine Islands (in four fathoms, sandy mud); Cuming.

June, 1860.

The shell represented at Fig. 83 is the type of M. Deshayes, *T. approximata*, and I had intended to adopt it. I cannot, however, bring my mind to think that it is distinct from *T. undulata*, of which a more typical example is given at Fig. 84.

Species 85. (Fig. *a*, *b*, Mus. Cuming.)

Terebra strigilata. *Ter. testâ aciculari-subulatâ, livido-cinereâ vel lutescente, infra suturas fasciâ albâ purpureo-punctatâ cingulatâ, ad basin albifasciatâ, anfractibus planatis, indivisis, longitudinaliter densè plicatis; aperturâ parvâ, columellâ breviusculâ, parum contortâ.*

The combed Terebra. Shell acicularly subulate, lividash or yellowish, encircled with a white purple-dotted band below the sutures, white-banded at the base, whorls flattened, undivided, longitudinally densely plicated; aperture small, columella rather short, but little twisted.

Buccinum strigilatum, Linnæus, Syst. Nat. p. 1206.
Terebra strigilata, Lamarck.
Terebra Verreauxi, Deshayes.
Terebra Matheroniana, Deshayes.
Terebra modesta, Deshayes.
Terebra acumen, Deshayes.
Terebra Argenvillei, Deshayes.
Terebra concinna, Deshayes.

Hab. Philippine Islands, Sandwich Islands, New Guinea.

A careful examination and comparison of the actual types of the species quoted above as synonyms has satisfied me, without occasion of doubt, that they are all different states, not very greatly varying, of the well-known *T. strigilata*.

Species 86. (Mus. Deshayes.)

Terebra difficilis. *Ter. testâ elongato-turritâ, carneo-albâ, anfractibus convexo-planis, subangustis, densissimè costellatis, sulco supernè divisis; aperturâ parvâ, columellâ subcontorta.*

The difficult Terebra. Shell elongately turreted, flesh-white, whorls convexly flattened, rather narrow, very densely finely ribbed, divided at the upper part by a groove; aperture small, columella slightly twisted.

Deshayes, Pro. Zool. Soc. 1859, p. 304.

Hab. —— ?

A shell of solid growth, partaking somewhat of the character of *T. larvæformis*, in which the fine ribs are so crowded as almost to lap one upon the other. It comes nearer even to *T. Souleyeti*.

Species 87. (Mus. Deshayes.)

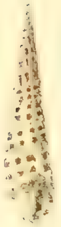
Terebra subangulata. *Ter. testâ angustè subulatâ, flavidâ, anfractibus supernè rudè angulatis, sulco lineari divisis, longitudinaliter costatis, interstitiis elevato-striatis; aperturâ parvâ, subangustâ, columellâ subcontortâ, basi recurvâ.*

The slightly angled Terebra. Shell narrowly subulate, yellowish, whorls rudely angled round the upper part, divided by a linear groove, longitudinally ribbed, interstices elevately striated; aperture small, rather narrow, columella slightly twisted, recurved at the base.

Deshayes, Pro. Zool. Soc. 1859, p. 300.

Hab. —— ?

Described from a single specimen in M. Deshayes's collection, not in a very good state, the shell being more or less incrusted with reddish matter.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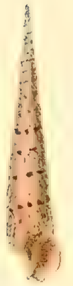
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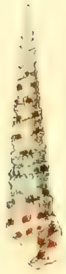
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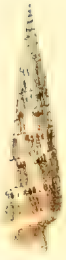
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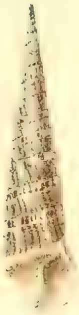
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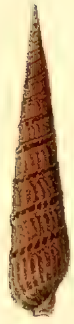
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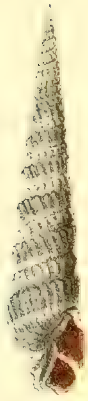
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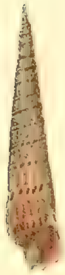
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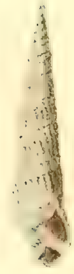
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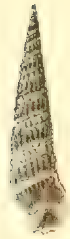

93 b

TEREBRA.

PLATE XIX.

Species 88. (Mus. Cuming.)

TEREBRA TESSELLATA. *Ter. testâ acuminato-turritâ, nitente-albâ, rufo-castaneo biseriatim maculatâ, anfractibus concavo-planis, lævibus, supernè sulco divisis, margine tumido, crenato; aperturâ parvâ, columellâ rectâ, carinatâ.*

THE TESSELLATED TEREBRA. Shell acuminated, turreted, shining-white, encircled with two rows of reddish-chestnut spots, whorls concavely flattened, smooth, divided at the upper part by a groove, margin swollen, crenated; aperture small, columella straight, keeled.

GRAY, Pro. Zool Soc. 1834.

Terebra decorata, Deshayes.

Hab. Tidang, Sumatra.

Conspicuously characterized by a double row of reddish-chestnut spots, while the swollen sutural margin is of a more opaque white than the rest of the shell.

Species 89. (Mus. Cuming.)

TEREBRA ALVEOLATA. *Ter. testâ attenuatè turritâ, pellucido-carneâ, aurantio-fuscescente tinctâ, maculis parvis rufo-castaneis ad suturas et ad basin cingulatâ, anfractibus plano-convexis, in interstitiis pertusis, supernè sulco divisis, margine tumidiusculo, crenato; aperturâ parvâ, columellâ rectâ, ad basin carinatâ et recurvâ.*

THE GUTTERED TEREBRA. Shell attenuately turreted, transparent flesh-colour, stained with orange-brown, encircled at the sutures and at the base with small reddish-chestnut spots, whorls flatly convex, pricked in the interstices, divided by a groove at the upper part, margin rather swollen, crenated; aperture small, columella straight, keeled and recurved at the base.

HINDS, Pro. Zool. Soc. 1843, p. 151.

Hab. Straits of Malacca; Cuming.

A delicately tinted, attenuately acuminated shell, encircled with two distant red-spotted whitish bands, one of which, on the sutural collar, covers the lower band of the preceding whorl as the shell advances in growth.

Species 90. (Mus. Taylor.)

TEREBRA LIGATA. *Ter. testâ acuminato-turritâ, albidâ, maculis rufo-castaneis transversè oblongis biseriatim cinctâ, anfractibus concavo-planatis, liris tenuibus clathratis, sulco supernè divisis, margine supra et infra tumidis et tuberculato-crenatis; aperturâ parviusculâ, columellâ rectâ, ad basin contorto-recurvâ.*

THE TIED TEREBRA. Shell acuminately turreted, whitish, encircled with two rows of transversely oblong reddish-chestnut spots, whorls concavely flattened, latticed with fine ridges, divided at the upper part by a groove, margin on both sides swollen and tuberculately crenated; aperture rather small, columella straight, twistedly recurved at the base.

HINDS, Pro. Zool. Soc. 1843, p. 153.

Hab. Marquesas Islands (in sandy mud, at seven fathoms); Hinds.

An elegantly formed and conspicuously painted species, the upper part of the whorls being encircled by a double crenated collar, on the marginal one of which is the uppermost row of transversely oblong spots.

Species 91. (Fig. *a*, Mus. Taylor, Fig. *b*, Mus. Cuming.)

TEREBRA MARMORATA. *Ter. testâ pyramidali-turritâ, albâ, maculis quadratis grandibus fusco-ferrugineis tessellatâ, ad marginem suturalem saturatè maculatâ, ad basin fasciatâ, anfractibus declivi-convexis, longitudinaliter plicato-costatis, in interstitiis pertusis; aperturâ oblongo-ovatâ, columellâ contorto-recurvâ.*

THE MARBLED TEREBRA. Shell pyramidally turreted, white, tessellated with large fuscous-fawn square blotches, darker spotted at the sutural margin, banded at the base, whorls slopingly convex, longitudinally plicately ribbed, pricked in the interstices; aperture oblong-ovate, columella twistedly recurved.

DESHAYES, Pro. Zool. Soc. 1849.

Hab. Port Curtis, Australia; Stutchbury.

A shining pyramidally acuminated shell, tessellated throughout with large square blotches of fuscous fawn-colour, which on the sutural margin are stained with spots of chestnut-red. The usual encircling groove is represented only by a more prominent depression of the punctures.

Species 92. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA COPULA. *Ter. testâ acuminato-turritâ, olivaceo-brunneâ, nitente, ad marginem suturalem maculis cas-*

June, 1860.

taneis obliquis cingulatâ, anfractibus declivi-convexis, arcuatim tenuiplicatis, sulco supernè divisis, plicis pallidioribus; aperturâ parviusculâ, columellâ rectâ, breviusculâ.

THE DOG'S COLLAR TEREBRA. Shell acuminately turreted, olive-brown, shining, encircled at the sutural margin with oblique chestnut spots, whorls slopingly convex, arcuately finely plicated, divided by a groove at the upper part, plaits paler; aperture rather small, columella straight, rather short.

HINDS, Pro. Zool. Soc. 1843, p. 151.

Hab. Guinea (on the sands); Humphreys.

An extremely beautiful and characteristic species, of an olive or bright shining brown, encircled throughout beneath the suture with a collar of obliquely square chestnut spots.

Species 93. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA SPECTABILIS. *Ter. testâ elongato-turritâ, plumbeo-cæruleâ aut purpureo-fuscâ, fasciâ albâ cingulatâ, anfractibus convexis, longitudinaliter plicatis, supernè sulco et depressione latiusculâ divisis, plicis supra et infra graniformibus; aperturâ oblongâ, parviusculâ, fauce castaneo-fuscâ, columellâ rectâ, ad basin carinatâ et leviter recurvâ.*

THE GRACEFUL TEREBRA. Shell elongately turreted, leaden-blue or purple-brown, encircled by a white band, whorls convex, longitudinally plicated, divided at the upper part by a groove and by a rather broad depression, plaits above and below grain-like; aperture oblong, rather small, interior chestnut-brown, columella straight, keeled and slightly recurved at the base.

HINDS, Pro. Zool. Soc. 1843, p. 150.

Terebra geminata, Deshayes.

Hab. Guinea (on the sands); Humphreys. Sumatra (on the sands); Cuming.

A gracefully convoluted species, encircled by a marked depression, next which the plaits, both above and below, are as it were grain-tipped. M Deshayes' *T. geminata* is a purple-brown variety of smaller size, from Natal.

Species 94. (Mus. Cuming.)

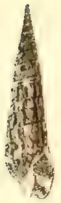
TEREBRA ADDITA. *Ter. testâ subcylindraceo-turritâ, albido-griseâ, obscurè fasciatâ, anfractibus convexo-planatis, longitudinaliter densè plicatis, supernè sulco depresso divisis; aperturâ oblongo-ovatâ, parviusculâ, columellâ rectâ.*

THE ADDED TEREBRA. Shell somewhat cylindrically turreted, whitish-grey, obscurely banded, whorls convexly flattened, longitudinally densely plicated, divided at the upper part by a depressed groove; aperture oblong-ovate, rather small, columella straight.

DESHAYES, Journ. de Conch. 1857.

Hab. Tasmania.

This comes very near the preceding species, but the whorls are flatter and fewer, and the spiral depression is less defined.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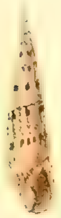
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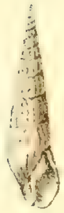
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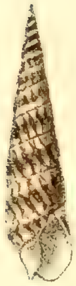
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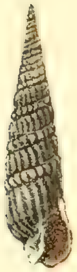
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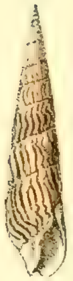
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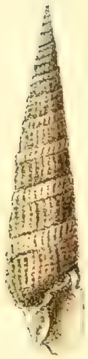
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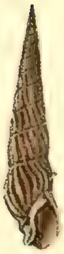
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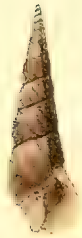
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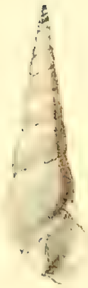
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TEREBRA.

Plate XX.

Species 95. (Fig. *a*, Mus. Crosse,
Fig. *b*, Mus. Cuming.)

Terebra venosa. *Ter. testâ gracili-subulatâ, albâ, sæpissimè cæruleo-fasciatâ, rufo maculatâ et promiscuè venosâ, anfractibus plano-convexis, interdum undique plicato-costatis, interdum primis plicato-costatis, cæteris lævibus, punctis supernè divisis; aperturâ parvâ, columellâ brevi, appressè arcuatâ.*

The veined Terebra. Shell slenderly subulate, white, banded with blue, spotted and promiscuously veined with red, whorls slightly convex, sometimes plicately ribbed throughout, sometimes the first whorls plicately ribbed, the rest smooth, divided at the upper part with a row of punctures; aperture small, columella short, appressly arched.

Hinds, Pro. Zool. Soc. 1843, p. 157.

Terebra Crossei, Deshayes.

Hab. Indian Ocean; Deshayes.

This very interesting species M. Kiener confounded with *T. lanceata*. M. Deshayes on the other hand has described a small richly-coloured plicately-ribbed specimen in the collection of M. Crosse, Fig. 95 *a*, as a new species, *T. Crossei*. All the varieties are plicately ribbed on the first few whorls. When plicately ribbed throughout, the shell, like the granulated varieties of Cones, is smaller than when it is smooth.

Species 96. (Fig. *a*, *b*, Mus. Cuming.)

Terebra lepida. *Ter. testâ cylindraceo-subulatâ, gracili, fulvo-spadiceâ, obscurè fasciatâ, infra suturas conspicuè purpureo-rufo maculatâ, interdum omnino pellucido-albâ, anfractibus convexo-planatis, indivisis, longitudinaliter varicoso-plicatis; aperturâ parvâ, appressè arcuatâ, deinde rectâ.*

The pretty Terebra. Shell cylindrically subulate, slender, fulvous-fawn, obscurely banded, conspicuously spotted with purple-red beneath the sutures, sometimes altogether transparent-white, whorls convexly flattened, undivided, longitudinally varicosely plicated; aperture small, appressly arched, then straight.

Hinds, Pro. Zool. Soc. 1843, p. 158.

Hab. Guinea (on the sands); Humphreys.

In this very delicate species the whorls have no encircling groove, and the longitudinal plaits have therefore a continuous varix-like development.

Species 97. (Mus. Cuming.)

Terebra Jukesii. *Ter. testâ subobeso-subulatâ, livido-cinereâ vel plumbeâ, immaculatâ, anfractu ultimo pallidè albifasciato, anfractibus latiusculis, convexis, longitudinaliter tenuiplicatis, supernè sulco divisis; aperturâ parvâ, subangustâ, columellâ rectâ, carinatâ.*

Jukes's Terebra. Shell rather stoutly subulate, livid-ash, or lead colour, unspotted, last whorl encircled with a faint whitish band, whorls rather broad, convex, longitudinally thinly plicated, divided at the upper part by a groove; aperture small, rather narrow, columella straight, keeled.

Deshayes, Journ. de Conch. 1857.

Hab. Port Essington, Australia; Jukes.

Chiefly distinguished by a delicately plaited veined sculpture on a livid ground.

Species 98. (Mus. Cuming.)

Terebra penicillata. *Ter. testâ subulatâ, subcylindraceâ, solidiusculâ, albidâ, lineis rufis longitudinaliter venosâ, anfractibus plano-convexis, indivisis, primis plicato-costatis, cæteris lævibus; aperturâ parvâ, columellâ appressè arcuatâ, rectâ.*

The pencilled Terebra. Shell subulate, somewhat cylindrical, rather solid, white, longitudinally veined with red lines, whorls flatly convex, undivided, the first plicately ribbed, the rest smooth; aperture small, columella appressly arched, straight.

Hinds, Pro. Zool. Soc. 1843, p. 157.

Hab. Seychelle Islands.

This species may prove to be a variety of *T. venosa*, in which the encircling blue band is wanting.

Species 99. (Mus. Cuming.)

Terebra puncticulata. *Ter. testâ conico-subulatâ, crassiusculâ, luteo-albâ, aurantio tinctâ vel tessellatâ, anfractibus declivi-convexis, longitudinaliter densè plicato-costatis, in interstitiis pertusis, supernè sulco di-*

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visis, margine suturali tumidiusculo, plicis obliquis; aperturâ oblongo-ovatâ, columellâ vix rectâ, carinatâ.

The punctured Terebra. Shell conically subulate, rather thick, yellowish-white, stained or tessellated with orange, whorls slopingly convex, longitudinally closely plicately ribbed, pricked in the interstices, divided at the upper part by a groove, sutural margin rather swollen, plaits oblique; aperture oblong-ovate, columella nearly straight, keeled.

Deshayes, Pro Zool. Soc. 1859, p. 280.

Terebra Peasii, Deshayes.

Hab. Sandwich Islands; Pease.

A solid closely-sculptured shell, in which the sutural margin has rather a swollen appearance.

Species 100. (Mus. Cuming.)

Terebra caliginosa. *Ter. testâ gracili-subulatâ, saturatè livido-purpureâ, anfractibus declivi-planatis, indivisis, longitudinaliter varicoso-costatis; aperturâ parvâ, columellâ ad basin subrecurvâ.*

The dark Terebra. Shell slenderly subulate, dark livid-purple, whorls slopingly flattened, undivided, longitudinally varicosely ribbed; aperture small, columella slightly recurved at the base.

Deshayes, Pro. Zool. Soc. 1859, p. 287.

Hab. Philippine Islands; Cuming.

This species is founded on a single specimen in Mr Cuming's collection, of a dark livid-olive or lead-colour

Species 101. (Fig. *a*, Mus. Taylor,
Fig. *b*, Mus. Cuming.)

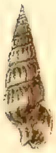
Terebra Buccinulum. *Ter. testâ subulatâ, ad basin ventricosâ, albidâ vel pallidè castaneâ, anfractibus declivi-convexis, lævibus, indivisis; aperturâ ovatâ, columellâ appressè arcuatâ.*

The Buccinum-like Terebra. Shell subulate, ventricose at the base, white or pale chestnut, whorls slopingly convex, smooth, undivided; aperture ovate columella appressly arched.

Deshayes, Journ. de Conch. 1857.

Hab. East coast of Australia.

A smooth species, intermediate in its character between *Terebra* and *Buccinum*.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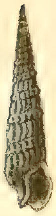
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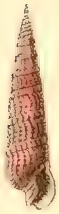
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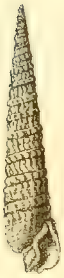
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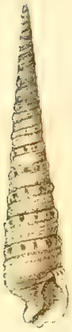
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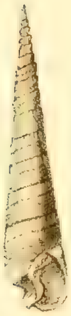
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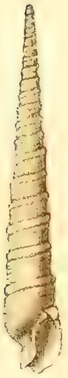
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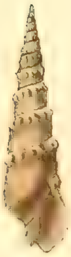
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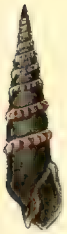
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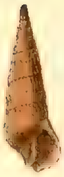
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Sowerby, del et lith

Vincent Brooks, Imp

TEREBRA.

Plate XXI.

Species 102. (Mus. Cuming.)

Terebra tristis. *Ter. testâ conico-turritâ, flavescente-albâ, livido-purpurascente latè bifasciatâ, anfractibus convexis, indivisis, concentricè plicato-costatis, costis in anfractu ultimo evanidis; aperturâ ovatâ, columellâ contorto-recurvâ.*

The sad Terebra. Shell conically turreted, yellowish-white, encircled with two broad livid-purple bands, whorls convex, undivided, concentrically plicately ribbed, ribs fading on the last whorl; aperture ovate, columella twistedly recurved.

Deshayes, Pro. Zool. Soc. 1859, p. 306.

Hab. Japan.

The lower of the two broad purple bands of this species is covered in all but the last whorl.

Species 103. (Mus. Cuming.)

Terebra longiscata. *Ter. testâ aciculari subulatâ, lividè fusco-griseâ, anfractibus declivi-convexis, sulco supernè divisis, obliquè validè plicato-costatis, costis subangulatis, interstitiis elevato-striatis; aperturâ ovatâ, columella ad basin productâ et recurvâ.*

The lengthened Terebra. Shell acicularly subulate, livid fuscous-grey, whorls slopingly convex, divided at the upper part by a groove, obliquely strongly plicately ribbed, ribs rather angular, interstices elevately striated; aperture ovate, columella produced and recurved at the base.

Deshayes, Pro. Zool. Soc. 1859, p. 294.

Hab. Philippine Islands; Cuming.

This species, described from a single small specimen collected by Mr. Cuming at the Philippine Islands, approaches very nearly to the larger shell, Pl. XXII. Sp. 116, which I have named *T. livida.* There is, however, a difference of form as well as of outline, the ribs are closer, and the striæ in the interstices are not excavated, as in that species, but raised.

Species 104. (Mus. Cuming.)

Terebra roseata. *Ter. testâ obeso-aciculari, subcylindraceâ, eximiè roseâ, anfractibus convexis, sulco pertuso supernè divisis, undique densè plicato-costatis, interstitiis lineari-sulcatis; aperturâ parvâ, subobliquè contractâ, columellâ laminatâ carinatâ, contorto-recurvâ.*

The roseate Terebra. Shell stoutly acicular, somewhat cylindrical, delicate rose-colour, whorls convex, divided at the upper part by a pricked groove, closely plicately ribbed throughout, interstices linearly grooved, aperture small, somewhat obliquely contracted, columella laminated, keeled, twistedly recurved.

Adams and Reeve, Moll. Voy. Samarang, p. 30. pl. 10. f. 24.

Hab. Sooloo Islands; Belcher.

Elaborately sculptured and uniformly tinted throughout with a pure soft rose-colour.

Species 105. (Mus. Cuming.)

Terebra nodularis. *Ter. testâ acuminato-turritâ, flavescente-albâ, anfractibus plano-convexis, longitudinaliter undato-plicatis, sulco profundo lineari supernè divisis, supra et infra sulcum tumidis, deinde transversim impresso-striatis; aperturâ parvâ, columellâ constrictâ et contorto-recurvâ.*

The nodular Terebra. Shell acuminately turreted, yellowish-white, whorls flatly convex, longitudinally wave-plicated, divided round the upper part by a deep linear groove, swollen above and below the groove, then transversely impressly striated; aperture small, columella constricted and twistedly recurved.

Deshayes, Pro. Zool. Soc. 1859, p. 296.

Hab. Sandwich Islands; Pease.

Though nearly resembling several other species of *Terebra*, an examination of the foregoing description will show that the sculpture of *T. nodularis* varies materially in detail.

Species 106. (Mus. Deshayes.)

Terebra eximia. *Ter. testâ elongato-turritâ, subpyramidali, candidâ, ad marginem aurantio-rufo punctatâ, anfractibus numerosis, angustis, planis, supra latimarginatis, margine tumidiusculo, obliquè crenulato, infra nitidè triseriatim granuloso-liratis, interstitiis pertusis, columellâ carinatâ, contorto-recurvâ.*

The delicate Terebra. Shell elongately turreted, somewhat pyramidal, white, dotted at the margin

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with orange-red, whorls numerous, narrow, flat, broadly margined above, the margin being rather swollen and obliquely crenulated, encircled below with three granular ridges, the interstices between which are pricked; columella keeled and twistedly recurved.

DESHAYES, Pro. Zool. Soc. 1859, p. 314.

Hab. ——?

A most distinct and elegantly sculptured species, unique in the collection of M. Deshayes.

Species 107. (Mus. Deshayes.)

TEREBRA OBSOLETA. *Ter. testâ acuminato-subulatâ, solidiusculâ, sordidè flavidâ, ad basin obscurè fusco fasciatâ, anfractibus declivi-planatis, ad marginem callosis et obliquè crenulatis, deinde spiraliter tenuiliratis; aperturâ parvâ, columellâ brevi, laminatâ, ad basin carinatâ et contortâ.*

THE OBSOLETE TEREBRA. Shell acuminately subulate, rather solid, dull yellowish, obscurely brown-banded at the base, whorls slopingly flattened, callous and obliquely crenulated at the margin, then spirally finely ridged; aperture small, columella short, laminated, keeled and twisted at the base.

DESHAYES, Pro. Zool. Soc. 1859, p. 310.

Hab. ——?

Closely allied to *T. cingulifera*, but of a more acicularly acuminated growth, with the columella shorter at the base. The shell has indications of a brown band at the base, and the sutural margin has a light enamelled appearance.

Species 108. (Mus. Cuming.)

TEREBRA LÆVIGATA. *Ter. testâ elongato-turritâ, gracili, flavidâ, anfractibus concavo-planis, lævigatis, sulco supernè divisis, deinde spiraliter punctato-striatis, margine suturali tumidiusculo; aperturâ ovatâ, columellâ contorto-recurvâ.*

THE SMOOTH TEREBRA. Shell elongately turreted, slender, yellowish, whorls concavely flattened, smooth, divided at the upper part by a groove, then spirally puncture-striated, sutural margin rather swollen; aperture ovate, columella twistedly recurved.

GRAY, Pro. Zool. Soc. 1834, p. 61.

Hab. Ceylon; Dr. Sibbald.

This is, I fear, only a slender variety of *T. cingulifera*.

Species 109. (Fig. *a*, *b*, Mus. Cuming.)

TEREBRA TIARELLA. *Ter. testâ subulatâ, purpureâ vel fulvescente-spadiceâ, anfractibus declivi-planulatis, primis paucis longitudinaliter plicato-liratis, cæteris lævibus, spiraliter impresso-striatis, ad marginem suturalem conspicuè tuberculato-nodatis; aperturâ oblongâ, subeffusâ, ad basin carinatâ et contorto-recurvâ.*

THE LITTLE TIARA TEREBRA. Shell subulate, purple or fulvous fawn, whorls slopingly flattened, the first few longitudinally plicately ridged, the rest smooth, spirally impressly striated, conspicuously tubercularly noduled at the sutural margin; aperture oblong, rather effused, keeled and twistedly recurved at the base.

DESHAYES, Journ. de Conch. 1857.

Hab. Cape Natal.

A comparatively smooth species, neatly coronated with distinct tubercular nodules.

Species 110. (Mus Cuming.)

TEREBRA KIENERI. *Ter. testâ conico-subulatâ, pallidè castaneâ, immaculatâ, anfractibus undique concentricè densè plicatis, sulco supernè divisis, anfractu ultimo rotundato; aperturâ ovatâ, collumellâ brevi, contorto-recurvâ.*

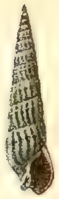
KIENER'S TEREBRA. Shell conically subulate, pale chestnut, unspotted, whorls concentrically closely plicated throughout, divided at the upper part by a groove, last whorl rounded; aperture ovate, columella short, twistedly recurved.

DESHAYES, Pro. Zool. Soc. 1859, p. 294.

Hab. Tasmania.

A closely plicated shell of a uniform pale chestnut colour throughout.

Terebra Pl. XXII.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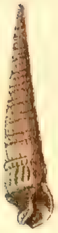
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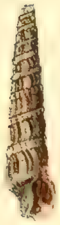
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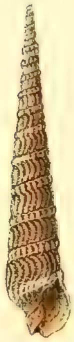
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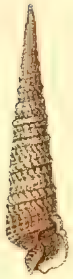
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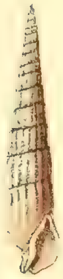
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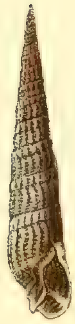
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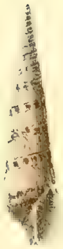
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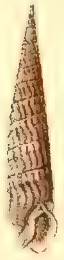
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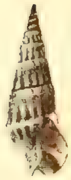
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Sowerby, del et lith

Vincent Brooks, Imp

TEREBRA.

Plate XXII.

Species 111. (Mus. Cuming.)

Terebra plumbea. *Ter. testâ aciculari-turritâ, cærulescente-plumbeâ, albo marginatâ, anfractibus convexo-planatis, longitudinaliter plicato-costatis, lævigatis, interstitiis transversim lineari-sulcatis; aperturâ parvâ, subeffusâ, columellâ rectâ, bicarinatâ.*

The leaden Terebra. Shell acicularly turreted, bluish lead-colour, edged with white, whorls convexly flattened, longitudinally plicately ribbed, smooth, interstices transversely linearly grooved; aperture small, a little effused, columella straight, double-keeled.

Quoy and Gaimard, Moll. Voy. de l'Astrolabe, p. 470. pl. 36. f. 29, 30.

Terebra Bourguignati, Deshayes.

Hab. Moluccas; Quoy and Gaimard. Philippines; Cuming. China; Fortune.

The whorls of this species are not divided round the upper part by any groove or change of sculpture, but by a difference of colour.

Species 112. (Fig. *a*, *b*, Mus. Cuming.)

Terebra picta. *Ter. testâ elongato-turritâ, subcylindraceâ, flavescente, cæruleo fasciatâ, purpureo-fusco longitudinaliter maculatâ aut nebulosâ, anfractibus convexis, sulco supernè divisis, concentricè plicato-costatis, interstitiis transversè lineari-sulcatis; aperturâ parviusculâ, oblongâ, columellâ parum contortâ, carinatâ.*

The painted Terebra. Shell elongately turreted, somewhat cylindrical, yellowish, blue-banded, spotted or clouded longitudinally with purple-brown, whorls convex, divided by a groove at the upper part, concentrically plicately ribbed, interstices transversely linearly grooved; aperture rather small, oblong, columella but little twisted, keeled.

Hinds, Pro. Zool. Soc. 1843, p. 156.

Terebra cinctella, Deshayes.

Hab. Island of Zebu, Philippines (in sandy mud, at four fathoms); Cuming. Mouth of the Indus.

A prettily blue-banded purple-blotched shell, elongately turreted, but of the same cylindrical outline and sculpture as *T. larvæformis*.

Species 113. (Mus. Cuming.)

Terebra columellaris. *Ter. testâ elongato-subulatâ, subpyramidali, albo et rufo-aurantio tessellatè maculatâ, anfractibus declivi-convexis, sulco supernè divisis, densè undulatim plicato-costatis, interstitiis pertusis, margine suturali crenato; aperturâ parvâ, columellâ carinatâ, subcontortâ et recurvâ.*

The pillar Terebra. Shell elongately subulate, somewhat pyramidal, tessellately mottled with white and reddish-orange, whorls slopingly convex, divided round the upper part by a groove, closely undulately plicately ribbed, interstices pricked, sutural margin crenated; aperture small, columella keeled slightly, twisted and recurved.

Hinds, Pro. Zool. Soc. 1843, p. 151.

Terebra areolata, Adams and Reeve.

Hab. Tahiti; Cuming.

Very closely allied to *T. undulata*, and greatly resembling that species in colour; it is of a more slenderly elongated form, the last whorl being thinly ventricose, and the sculpture is finer and closer.

Species 114. (Mus. Cuming.)

Terebra fenestrata. *Ter. testâ acuminato-turritâ, pellucido-fulvâ aut fulvo-fuscâ, anfractibus concavo-planis, sulco supernè divisis, undique validè clathratis, margine suturali crenato; aperturâ parvâ, columellâ constrictâ, carinatâ, contorto-recurvâ.*

The windowed Terebra. Shell acuminately turreted, transparent-fulvous or fulvous-brown, whorls concavely flattened, divided round the upper part by a groove, strongly latticed throughout, sutural margin crenated; aperture small, columella constricted, keeled, twistedly recurved.

Hinds, Pro. Zool. Soc. 1843, p. 153.

Hab. —— ?

A very elaborately latticed shell, of semitransparent yellow or fulvous-purple substance, elegantly turreted throughout.

Species 115. (Mus. Cuming.)

Terebra nitida. *Ter. testâ subobeso-aciculari, subcylindraceâ, pellucido-albâ, lividâ, anfractibus declivi-pla-*

June, 1860.

natis, varicoso-costatis, supernè pertusis, interstitiis obsoletè lineari-sulcatis; aperturâ minimâ, obliquè contractâ, columellâ laminatâ, contorto-recurvâ.

THE SHINING TEREBRA. Shell rather stoutly acicular, somewhat cylindrical, transparent-white, livid, whorls slopingly flattened, varicosely ribbed, pricked round the upper part, interstices obsoletely linearly grooved; aperture very small, obliquely contracted, columella laminated, twistedly recurved.

HINDS, Pro. Zool. Soc. 1843, p. 152.

Terebra plicatella, Deshayes.

Hab. Marquesas (in sandy mud, at seven fathoms); Hinds. Tasmania.

An extremely delicate, transparent, livid-white shell, with a small obliquely contracted aperture. The whorls are divided round the upper part simply by a row of punctures.

Species 116. (Mus. Taylor.)

TEREBRA LIVIDA. *Ter. testâ acuminato-subulatâ, livido-purpurascente aut plumbeâ, anfractibus declivi-planatis, sulco supernè divisis, densè plicato-costatis, costis plano-angulatis, interstitiis striato-sulcatis; aperturâ oblongo-ovatâ, intus castaneâ, columellâ contorto-recurvâ, carinatâ.*

THE LIVID TEREBRA. Shell acuminately subulate, livid-purple or lead-colour, whorls slopingly flattened, divided by a groove round the upper part, closely plicately ribbed, ribs flatly angled, interstices striately grooved; aperture oblong-ovate, chestnut in the interior, columella twistedly recurved, keeled.

Hab. Philippine Islands; Cuming.

A well marked species, of which specimens have been confounded in Mr. Cuming's collection with M. Quoy's *T. cancellata.* It is of a different form, more flatly and straightly sculptured, less corded at the sutural margin, and of a peculiar livid lead-colour.

Species 117. (Mus. Cuming.)

TEREBRA BLANDA. *Ter. testâ subulato-turritâ, ad basin angulato-fusiformi, pellucido-albâ, ad marginem suturalem opacâ, aurantio-rufo maculatâ, apice purpurascente, anfractibus declivi-convexis, tenuè concentricè plicatis, supernè sulco divisis, margine tumido; aperturâ oblongâ, subangustâ, columellâ ad basin productâ et recurvâ.*

THE CHARMING TEREBRA. Shell subulately turreted, angularly fusiform at the base, transparent-white, opaque, spotted with orange-red at the sutural margin, purple at the apex, whorls slopingly convex, finely concentrically plicated, divided at the upper part by a groove, margin swollen; aperture oblong, rather narrow, columella produced and recurved at the base.

DESHAYES, Pro. Zool. Soc. 1859, p. 298.

Hab. Japan.

Very distinct from any other species of *Terebra*, and more than usually produced in a fusiform manner at the base.

Species 118. (Mus. Cuming.)

TEREBRA SWAINSONI. *Ter. testâ obeso-aciculari, subcylindraceâ, rosaceo-carneo suffusâ, anfractibus convexis, subangustis, longitudinaliter plicato-costatis, supernè pertusis, interstitiis obscurè lineari-sulcatis; aperturâ minimâ, obliquè contractâ, columellâ laminatâ, carinatâ, contorto-recurvâ.*

SWAINSON'S TEREBRA. Shell stoutly acicular, somewhat cylindrical, suffused with pinkish flesh-colour, whorls convex, rather narrow, longitudinally plicately ribbed, pricked round the upper part, interstices obscurely linearly grooved; aperture very small, obliquely contracted, columella laminated, keeled, twistedly recurved.

DESHAYES, Pro. Zool. Soc. 1859, p. 299.

Hab. Sandwich Islands; Pease.

Of a characteristic cylindrical form, with a remarkably small obliquely contracted aperture, the shell being suffused throughout with a delicate blush-colour.

Species 119. (Mus. Taylor.)

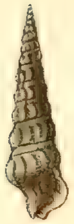
TEREBRA BREVICULA. *Ter. testâ abbreviato-subulatâ, olivaceo-plumbeâ, purpureo vittatâ, medio albifasciatâ, anfractibus declivi-convexis, infernè subangulatis, ad angulum plicato-tuberculatis, tuberculis distantibus, margine suturali tumido, vix crenato; aperturâ ovato-effusâ, columellâ carinatâ et contorto-recurvâ.*

THE SHORT TEREBRA. Shell shortly subulate, olive lead-colour, filleted with purple-white, banded in the middle, whorls slopingly convex, somewhat angled at the lower part, plicately tubercled on the angle, tubercles distant, sutural margin swollen, scarcely crenated; aperture ovately effused, columella keeled and twistedly recurved.

DESHAYES, Pro. Zool. Soc. 1852, p. 296.

Hab. Tasmania.

A very distinct typical form, in which the encircling groove is replaced by a broad concave depression, the sculpture below it having the appearance of tubercles.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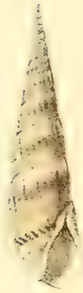
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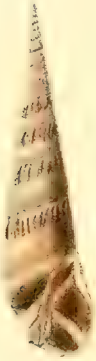
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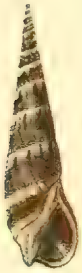
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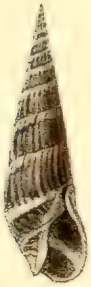
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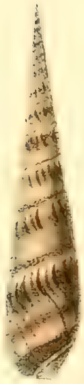
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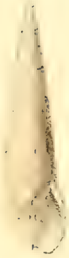
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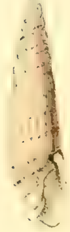
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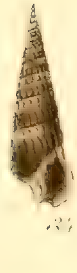
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TEREBRA.

PLATE XXIII.

Species 120. (Mus. Metcalfe.)

TEREBRA VARICOSA. *Ter. testâ conico-subulatâ, acuminatâ, solidâ, variè purpureo fasciatâ, anfractibus declivi-convexis, subangustis, supernè concavo-divisis, varicoso-costatis, costis obliquis, concentricis, subdistantibus, interstitiis striato-sulcatis; aperturâ parvâ, columellâ constrictâ, ad basin contortâ et recurvâ.*

THE VARICOSE TEREBRA. Shell conically subulate, acuminated, solid, variously purple-banded, whorls slopingly convex, rather narrow, concavely divided round the upper part, varicosely ribbed, ribs oblique, concentric, rather distant, interstices striately grooved; aperture small, columella constricted, twisted, and recurved at the base.

HINDS, Pro. Zool. Soc. 1843, p. 152.

Hab. Gulf of Papagayo, west coast of Central America (in mud, at twenty-three fathoms); Hinds.

The ribs of this species have a peculiar obliquely concentric character, and do not appear in the form of crenules on the sutural margin, which is depressly excavated.

Species 121. (Fig. *b*, Mus. Taylor; Fig. *a*, *c*, *d*, *e*, *f*, Mus. Cuming.)

TEREBRA ACICULINA. *Ter. testâ aciculari-subulatâ, ad basin ventricoso-effusâ, spadiceo-albâ vel cinereâ, nitente, versus basin pallidè fasciatâ, suturis albis, deinde punctis fuscis elongatis cinctâ, anfractibus declivi-planatis, indivisis, supernè plus minus elongatè plicatis; aperturâ brevi, ad basin latè effusâ, columellâ brevissimâ, callosâ, rectâ, ad basin carinatâ.*

THE NEEDLE-LIKE TEREBRA. Shell acicularly subulate, ventricosely effused at the base, fawn-white or ash-colour, shining, pale-banded towards the base, sutures white, then encircled with elongated brown dots, whorls slopingly flattened, undivided, more or less elongately plicated round the upper part; aperture short, broadly effused at the base, columella very short, callous, straight, keeled at the base.

LAMARCK, Anim. sans vert. vol. x. p. 250.
Terebra anomala, Gray.
Terebra cinerea, Basterot (not of Born).
Terebra inconstans, Hinds.
Terebra Matheroniana, Deshayes.

Hab. Manilla, Singapore, Sandwich Islands.

This species varies little in form, except in having the plicated sculpture more or less strongly developed. In colour it is more variable, and has been described three times over. The shells represented at Fig. 121 *d* and 121 *f*, ash and ash-grey, and comparatively smooth, passing into *T. nimbosa*, have been mistaken for Born's *Buccinum cinereum*; those at Fig. 121 *a* and 121 *c*, equally smooth, but of a fawn-white or fulvous-drab, are Dr. Gray's *T. anomala*; and those at Fig. 121 *b* and 121 *e*, states of the species in both colours, with the plicated sculpture stronger, are Mr. Hinds's *T. inconstans*.

Species 122. (Mus. Cuming.)

TEREBRA CONTINUA. *Ter. testâ acuminato-oblongâ, subpyramidali, lacteâ, carneolâ, ad basin pallidè fasciatâ, anfractibus declivi-planatis, indivisis, longitudinaliter tenuiplicatis, lævigatis; aperturâ parvâ, subangustâ, columellâ arcuatâ, brevi.*

THE CONTINUOUS TEREBRA. Shell acuminately oblong, somewhat pyramidal, cream-coloured, flesh-tinted, faintly banded at the base, whorls slopingly flattened, undivided, longitudinally thinly plicated, smooth; aperture small, rather narrow, columella arched, short.

DESHAYES, Pro. Zool. Soc. 1859, p. 286.

Hab. Japan?

A flesh-tinted cream-coloured shell, of a straight pyramidal form, veined throughout with thin plications.

Species 123. (Mus. Cuming.)

TEREBRA SOLIDA. *Ter. testâ cylindraceo-oblongâ, solidâ, obesulâ, spadiceo-lacteâ, maculis quadratis opaco-albis tessellato-encausticâ, anfractibus plano-convexis, indivisis, lævibus; aperturâ parvâ, oblongâ, columellâ rectâ, brevi, ad basin carinatâ.*

THE SOLID TEREBRA. Shell cylindrically oblong, solid, rather stout, fawn cream-colour, tessellately enamelled throughout with square opaque white blotches, whorls flatly convex, undivided, smooth; aperture small, oblong, columella straight, short, keeled at the base.

DESHAYES, Journ. de Conch. 1857.

Hab. Japan.

June, 1860.

A very distinct type of *Terebra*, with a strong *Mitra*-ke aspect, tessellately enamelled throughout with square opaque white spots upon a fawn cream-coloured ground.

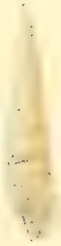
Species 124. (Mus. Taylor.)

Terebra Taylori. *Ter. testâ conico-subulatâ, basin versus obesulâ, purpureo-cinereâ, lividâ, obscurè fasciatâ, anfractibus convexis, medio concavis, supra et infra plicato-crenulatis; aperturâ ovatâ, subeffusâ, columellâ brevi, rectâ.*

Taylor's Terebra. Shell conically subulate, rather stout towards the base, purple-ash, livid, obscurely banded, whorls convex, concave in the middle, plicately crenuled above and below; aperture ovate, a little effused, columella short, straight.

Hab. Torres Straits, Australia.

A characteristic new species from Torres Straits, in the possession of Mr. T. Lombe Taylor, who, after Mr. Cuming, has probably the completest collection of shells in Europe, not excepting even the collection of the Baron Delessert or of any public museum. Mr. Metcalfe also possesses specimens.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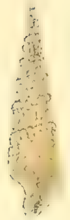
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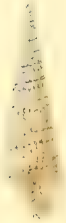
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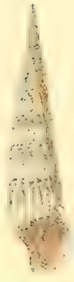

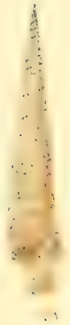

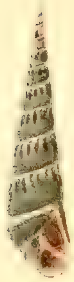
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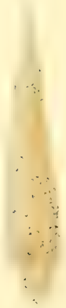
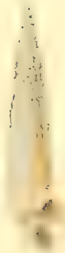
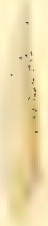
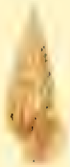








Sowerby del. et lith.

Plate XXIV.

Species 125. (Mus. Cuming.)

Terebra violascens. *Ter. testâ gracili-turritâ, albidâ aut lutescente, ad marginem suturalem fusco tinctâ, anfractibus plano-convexis, indivisis, obliquè flexuosè plicatis, liris spiralibus in interstitiis clathratis, suturâ subprofundâ; aperturâ parvâ, columellâ ad basin productâ et recurvâ.*

The violet Terebra. Shell slenderly turreted, whitish or yellowish, stained with brown at the sutural margin, whorls flatly convex, undivided, obliquely flexuously plicated, latticed in the interstices with spiral ridges, suture rather deep; aperture small, columella produced and recurved at the base.

Hinds, Pro. Zool. Soc. 1843, p. 154.

Hab. Philippine Islands (in sandy mud at twenty-five fathoms); Cuming.

The shell here described and figured is one of the Philippine specimens to which Mr. Hinds refers in the 'Thesaurus' as being a different colour from his specimens, and disposed to be banded. They have an extremely delicate *Scalaria*-like look, with the whorls undivided, and do not agree in this respect with Mr. Hinds' figure.

Species 126. (Mus. Gray.)

Terebra flava. *Ter. testâ conico-subulatâ, flavescente-albâ, anfractibus plano-convexis, sulco pertuso supernè divisis, longitudinaliter plicato-liratis, interstitiis lineis spiralibus impressis decussatis; aperturâ parvâ, columellâ ad basin productâ et paululum recurvâ.*

The yellow Terebra. Shell conically subulate, yellowish-white, whorls flatly convex, divided by a punctured groove at the upper part, longitudinally plicately ridged, interstices decussated by impressed spiral lines; aperture small, columella produced at the base, and a little recurved.

Gray, Pro. Zool. Soc. 1834, p. 60.

Hab. ——?

A yellowish conoid shell, longitudinally ridged, with the interstices closely linearly grooved. It is scarcely mature, and not in very good condition. The species must be regarded as doubtful.

Species 127. (Fig. *a*, *b*, Mus. Cuming.)

Terebra conspersa. *Ter. testâ acutè subulatâ, cærulescente-albâ, ad marginem suturalem rufo sparsim promiscuè punctatâ, ad basin rufo-fasciatâ, anfractibus declivi-convexis, longitudinaliter plicato-costis, interstitiis leviter pertusis; aperturâ parvâ, columellâ ad basin productâ et contorto-recurvâ.*

The sprinkled Terebra. Shell sharply subulate, bluish-white, sparingly promiscuously dotted on the sutural margin with red, red-banded at the base, whorls slopingly convex, longitudinally plicately ribbed, interstices slightly pricked; aperture small, columella produced at the base, and twistedly recurved.

Hinds, Pro. Zool. Soc. p. 153.

Hab. Catbalonga, Isle of Samar, Philippines (in sandy mud at eight fathoms); Cuming.

Well distinguished by a promiscuous sprinkling of red dots about the sutural margin, and by a band of the same colour, more diluted, at the base. The sutural groove is represented by a row of enlarged punctures.

Species 128. (Mus. Cuming.)

Terebra elata. *Ter. testâ elongato-turritâ, rufescente-albâ, ad basin conspicuè rufo-fasciatâ, anfractibus plano-convexis, longitudinaliter plicato-costatis, spiraliter lineari-sulcatis; aperturâ parvâ, columellâ ad basin subproductâ et recurvâ.*

The raised Terebra. Shell elongately turreted, reddish-white, conspicuously red-banded at the base, whorls flatly convex, longitudinally plicately ridged, spirally linearly grooved; aperture small, columella rather produced at the base, and recurved.

Hinds, Pro. Zool. Soc. 1843, p. 156.

Hab. Bay of Montijo, west coast of America (in coarse sand at fifteen fathoms); Cuming.

The basal band of this more slenderly elongated species is of a deeper red, edged with milky-white, while there are no red dots.

Species 129. (Mus. Cuming.)

Terebra Salleana. *Ter. testâ aciculari, livido-viridi, purpureo-tinctâ, anfractu ultimo angustè albifasciatâ,* *crenulis albidis, anfractibus declivi-planatis, lævibus, nitentibus, supernè plicato-crenulatis, crenulis longiusculis, distantibus; aperturâ brevi, columellâ rectâ, abbreviato-truncatâ.*

Salle's Terebra. Shell acicular, livid-green, purple-stained, last whorl encircled with a narrow pale band, crenules white, whorls slopingly flattened, smooth, shining, plicately crenuled round the upper part, crenules rather long, distant; aperture small, columella straight, shortly truncated.

Deshayes, Pro. Zool. Soc. 1859, p. 287.

Hab. Mexico; Sallè.

This most interesting Mexican species is of a dark purple-stained livid-green, coronated with peculiarly elongated distant whitish crenules.

Species 130. (Mus. Taylor.)

Terebra textilis. *Ter. testâ acuminato-subulatâ, lutescente-albâ, anfractibus convexo-planatis, puncturis supernè divisis, obliquè arcuatè liratis, spiraliter densè lineari-sulcatis; aperturâ parvâ, columellâ ad basin productâ et contorto-recurvâ.*

The textile Terebra. Shell acuminately subulate, yellowish-white, whorls convexly flattened, divided by punctures round the upper part, obliquely arcuately ridged, spirally densely linearly grooved; aperture small, columella produced at the base, and twistedly recurved.

Hinds, Pro. Zool. Soc. 1843, p. 156.

Hab. Straits of Macassar, Hinds. Bay of Manila (in coarse sand and gravel, at from six to thirteen fathoms); Cuming.

A most elaborately sculptured species, of sharply acuminated growth, twistedly recurved in a marked degree at the base.

Species 131. (Mus. Gray.)

Terebra gracilis. *Ter. testâ subulatâ, solidiusculâ, violaceo-cinereâ, carneo-purpureo fasciatâ, anfractibus plano-convexis, sulco supernè latè divisis, longitudinaliter plicato-liratis, liris complanatis, subobsoletis; aperturâ parvâ, columellâ brevi, contortâ et carinatâ.*

The slender Terebra. Shell subulate, rather solid, violet-ash, banded with flesh-purple, whorls flatly convex, broadly divided round the upper part by a groove, longitudinally plicately ridged, ridges smooth, rather obsolete; aperture small, columella short, twisted and keeled.

Gray, Pro. Zool. Soc. 1834, p. 61.

Hab. Africa.

The whorls of this species are divided rather broadly round the upper part, and the columella is peculiar in being short and keeled. Mr. Hinds accidentally confounded this species with the following, and M. Deshayes, not having had access to Dr. Gray's type, continued the error. They are quite different shells, from quite different habitats.

Species 132. (Mus. Taylor.)

Terebra frigata. *Ter. testâ subulatâ, nitente-albâ, anfractibus concavo-planatis, sulco pertuso supernè divisis, longitudinaliter plicato-costatis, in interstitiis lineari-sulcatis, costis ad marginem suturalem gemmatis; aperturâ oblongâ, parvâ, columellâ ad basin productâ et paululum recurvâ.*

The cold Terebra. Shell subulate, shining-white, whorls concavely flattened, divided round the upper part by a pricked groove, longitudinally plicately ribbed, linearly grooved in the interstices, ribs beaded at the sutural margin; aperture oblong, small, columella produced at the base, and a little recurved.

Hinds, Pro. Zool. Soc. 1843, p. 162.

Hab. Galapagos Islands (in coral sand); Cuming.

A strongly but delicately sculptured shell, in which the ribs swell at the sutural margin into an encircling cord of soft opake white beads.

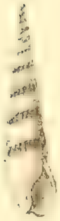
Species 133. (Mus. Taylor.)

Terebra morbida. *Ter. testâ cylindraceo-conicâ, solidiusculâ, purpurascente-carneâ, maculis rufescentibus cingulatâ, anfractibus declivi-convexis, sulco supernè latè divisis, longitudinaliter costatis, costis latis, confertis; aperturâ ovatâ, columellâ brevi, carinatâ et contortâ.*

The diseased Terebra. Shell cylindrically conical, rather solid, purple flesh-colour, encircled with faint red spots, whorls slopingly convex, broadly divided by a groove at the upper part, longitudinally ribbed, ribs broad, close-set; aperture ovate, columella short, keeled and twisted.

Hab. ——?

A short cylindrically conoid shell, solidly ribbed, and faintly red-spotted upon a purple-flesh ground.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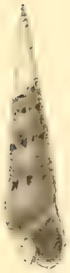
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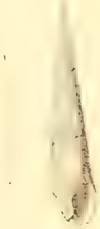
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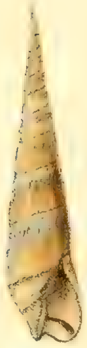
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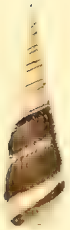
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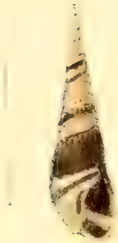
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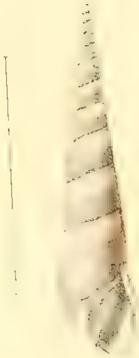
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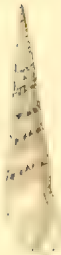
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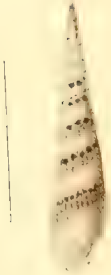
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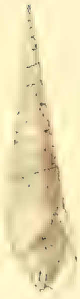
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Vincent Brooks, Imp

PLATE XXV.

Species 134. (Fig. *a*, *b*, *c*, Mus. Cuming.)

TEREBRA BACILLUS. *Ter. testâ aciculari, albâ, cinereo-plumbeo plus minus fasciatâ, nitente, infra suturas interdum maculatâ, apice plumbeâ, anfractibus declivi-planatis, indivisis, supernè elongatè plicato-crenulatis; aperturâ parvâ, columellâ arcuatâ, brevi.*

THE LITTLE STAFF TEREBRA. Shell acicular, white, more or less banded with leaden ash-colour, shining, sometimes spotted beneath the sutures, apex lead-colour, whorls slopingly flattened, undivided, elongately plicately crenated round the upper part; aperture small, columella arched, short.

DESHAYES, Pro. Zool. Soc. 1859, p. 285.

Terebra lactea, Deshayes.

Hab. Sandwich Islands.

A shining solid shell, of transparent-white, variously banded with a peculiar leaden ash-colour. M. Deshayes' *T. lactea* is the species in a colourless state.

Species 135. (Fig. *a*, *b*, *c*, *d*, Mus. Cuming.)

TEREBRA MICANS. *Ter. testâ aciculari-subulatâ, nitente-albâ, interdum lutescente, purpureo-brunneo fasciatâ, anfractibus declivi-planatis, indivisis, supernè densè elongatè plicato-crenulatis; aperturâ parvâ, columellâ appressè arcuatâ, brevi.*

THE GLITTERING TEREBRA. Shell acicularly subulate, shining-white, sometimes yellowish, banded with rich-brown, whorls slopingly flattened, undivided, densely elongately plicately crenuled round the uppèr part; aperture small, columella appressly arched, short.

HINDS, Pro. Zool. Soc. 1843, p. 181.

Terebra Adansoni, Deshayes.

Hab. Senegal.

The typical peculiarity of this and the preceding species consists in the whorls not being divided by any spiral grooves, but densely puckered from the suture with fine elongated crenules.

Species 136. (Mus. Cuming.)

TEREBRA APICINA. *Ter. testâ aciculari, nitente-albâ, infra suturas maculis rufis super fasciam livido-carneam cingulatâ, anfractibus declivi-planatis, indivisis, supernè elongatè plicato-crenulatis; aperturâ parvâ, columellâ appressè arcuatâ, brevi.*

THE SHARP-POINTED TEREBRA. Shell acicular, shining-white, encircled below the sutures with red spots upon a livid-flesh band, whorls slopingly flattened, undivided, elongately plicately crenuled round the upper part; aperture small, columella appressly arched, short.

DESHAYES, Pro. Zool. Soc. 1859, p. 284.

Hab. Singapore.

In this example of the same type the elongated crenules are larger, over a livid-flesh band, and a necklace of bright-red spots.

Species 137. (Mus. Cuming.)

TEREBRA DISPAR. *Ter. testâ aciculari-subulatâ, nitente-albâ, semipellucidâ, anfractibus declivi-planatis, indivisis, supernè densè plicato-crenulatis; aperturâ oblongo-ovatâ, columellâ appressè arcuatâ, breviusculâ.*

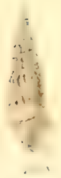
THE UNLIKE TEREBRA. Shell acicularly subulate, shining-white, semitransparent, whorls slopingly flattened, undivided, densely plicately crenuled round the upper part; aperture oblong-ovate, columella appressly arched, rather short.

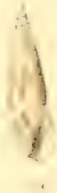
DESHAYES, Pro. Zool. Soc. 1859, p. 284.

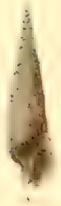
Hab. ——?

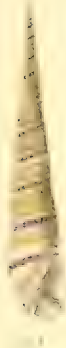
This species bears very closely on *T. micans.* It is more slenderly convoluted, and the crenules are stronger and shorter.

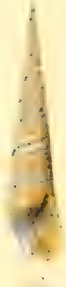
Terebra Pl. XXVI.

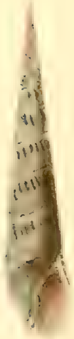


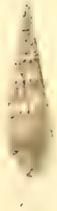


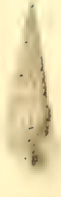


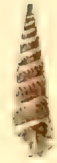












TEREBRA.

PLATE XXVI.

Species 138. (Mus. Cuming.)

TEREBRA NANA. *Ter. testâ subfusiformi-turritâ, flavescente-albâ, maculis pallidè fulvis bifasciatâ, anfractibus subplanulatis, primis costatis, costis gradatim evanidis; aperturâ parvâ, columellâ arcuatâ, brevi et contortâ.*

THE DWARF TEREBRA. Shell somewhat fusiformly turreted, yellowish-white, encircled with two rows of pale fulvous spots, whorls rather flattened, the first ribbed, ribs gradually disappearing; aperture small, columella arched, short and twisted.

DESHAYES, Pro. Zool. Soc. 1859, p. 291.

Hab. Mouth of the Indus.

A minute, yellowish shell, encircled with two rows of pale red spots, strongly but rather distantly ribbed towards the apex.

Species 139. (Mus. Metcalfe.)

TEREBRA METCALFII. *Ter. testâ cylindraceo-oblongâ, albidâ, flammulis aurantiis albi-punctatis pallidissimè tinctâ, ad marginem suturalem rufo-punctatâ, anfractibus convexis, indivisis, primis costatis, costis cito evanidis; aperturâ oblongâ, columellâ callosâ, breviusculâ.*

METCALFE'S TEREBRA. Shell cylindrically oblong, whitish, faintly tinged with pale white-dotted orange flames, red-dotted at the sutural margin, whorls convex, undivided, the first ribbed, ribs soon fading; aperture oblong, columella callous, rather short.

Hab. West Indies?

An interesting species, of which the specimen figured, from the collection of Mr. Metcalfe, is the only one I have seen. It was collected originally by the Rev. Lansdowne Guilding.

Species 140. (Mus. Cuming.)

TEREBRA OBESA. *Ter. testâ cylindraceo-subulatâ, nitente-albâ, maculis aurantiis amplis sparsim pictâ, anfractibus primis costatis, costis cito evanidis; aperturâ oblongâ, columellâ appressè arcuatâ, brevi.*

THE STOUT TEREBRA. Shell cylindrically subulate, shining-white, painted with a few large orange spots, whorls convex, the first ribbed, ribs soon disappearing; aperture oblong, columella appressly arched, short.

HINDS, Pro. Zool. Soc. 1843, p. 158.

Hab. ——?

Resembling the preceding species in general form and character, but painted with large blotches of pale-orange.

Species 84. (Mus. Cuming.)

TEREBRA EXIGUA. *Ter. testâ aciculari-turritâ, castaneo-fuscâ aut lividâ, anfractibus convexo-planis, sulco supernè divisis, costellis concentricis sulcisque transversis undique clathratis; aperturâ parvâ, columellâ contorto-recurvâ.*

THE LITTLE TEREBRA. Shell acicularly turreted, chestnut-brown or livid, whorls convexly flattened, divided at the upper part by a groove, latticed throughout, with concentric ribs and transverse ridges; aperture small, columella twistedly recurved.

DESHAYES, Pro. Zool. Soc. 1859, p. 301.

Hab. East coast of Australia.

A small livid-brown or chestnut shell of very regular growth, closely latticed throughout.

Species 141. (Mus. Cuming.)

TEREBRA CUSPIDATA. *Ter. testâ elongato-subulatâ, albâ, subvitreâ, fasciâ angustâ conspicuâ purpureo-rufâ super fasciam latam lutescentem undique cingulatâ, anfractibus declivi-planatis, indivisis, supernè tenuè elongato-crenulatis; aperturâ parvâ, columellâ latè appressâ, brevi.*

THE POINTED TEREBRA. Shell elongately subulate, white, somewhat glassy, encircled throughout with a conspicuous narrow red band upon a broad yellow band, whorls slopingly flattened, undivided, finely elongately crenuled round the upper part; aperture small, columella broadly appressed, short.

HINDS, Pro. Zool. Soc. 1843, p. 157.

Hab. Cape Coast, Africa; Dr. Tams.

An elegant glassy shell, encircled throughout with a conspicuous narrow red-brown band, which in all but the last whorls obtains a violet hue from passing over a broad ribbon of yellow.

Species 142. (Fig. *a*, *b*, Mus. Cuming.)

Terebra Traillii. *Ter. testâ aciculari-subulatâ, aurantio-luteâ, fasciâ angustâ violaceâ cingulatâ, ad basin lati-fasciatâ, anfractibus declivi-planatis, supernè elongatè plicato-crenulatis; aperturâ parvâ, columellâ arcuatâ et carinatâ.*

Traill's Terebra. Shell acicularly subulate, orange-yellow, encircled with a narrow violet band, broadly banded at the base, whorls slopingly flattened, elongately plicately crenuled round the upper part; aperture small, columella arched, keeled.

Deshayes, Pro. Zool. Soc. 1859, p. 285.

Hab. Vasigapatam, Indian Ocean.

Very like the preceding species, but smaller and differently coloured, with a distinct keel at the base of the columella.

Species 143. (Mus. Cuming.)

Terebra acuminata. *Ter. testâ aciculari-subulatâ, tenuiculâ, livido-purpurascente, plumbeo tinctâ, infra suturas saturatè maculatâ, ad basin latifasciatâ, anfractibus declivi-planatis, supernè elongatè plicato-crenulatis; aperturâ parvâ, columellâ appressè arcuatâ, brevi.*

The acuminated Terebra. Shell acicularly subulate, rather thin, livid-purple, tinged with lead-colour, dark-spotted beneath the sutures, broadly banded at the base, whorls slopingly flattened, elongately plicately crenuled at the upper part; aperture small, columella appressly arched, short.

Bullia acuminata, Gray, MS. in Mus. Brit.

Hab. —— ?

Of the same type as the two preceding species. The ground colour of the shell is a sombre leaden-purplish hue, with a row of dark spots beneath the suture, in the place of the band.

Species 144. (Mus. Cuming.)

Terebra Nassoides. *Ter. testâ obeso-subulatâ, lævigatâ, roseo-cinereâ, albo-marginatâ, plumbeo-fasciatâ, anfractibus declivi-convexis, indivisis, varicoso-costatis, spiraliter minutè striatis; aperturâ parvâ, columellâ brevi, carinatâ et paululum recurvâ.*

The Nassa-like Terebra. Shell stoutly subulate, smooth, pinkish-ash, white-edged, banded with lead-colour, whorls slopingly convex, undivided, varicosely ribbed, spirally minutely striated; aperture small, columella short, keeled and a little recurved.

Hinds, Pro. Zool. Soc. 1843, p. 158.

Hab. Red Sea; Lord Mountnorris.

A rather stout, varicosely ribbed species, of a pinkish-ash colour, white at the sutural margin, thin, encircled with a narrow band of dull lead-colour, and also at the base.

Species 145. (Mus. Cuming.)

Terebra fictilis. *Ter. testâ obeso-subulatâ, acuminatâ, albidâ, infernè violaceo-cæruleo cingulatâ, anfractibus declivi-convexis, sulco impresso supernè divisis, longitudinaliter plicato-costatis; aperturâ ovata, columellâ brevi, subcontortâ.*

The earthen Terebra. Shell stoutly subulate, acuminated, whitish, encircled at the lower part with violet-blue, whorls slopingly convex, divided at the upper part by an impressed groove, longitudinally plicately ribbed; aperture ovate, columella short, a little twisted.

Hinds, Thesaurus Conch. p. 183. pl. 45. f. 109, 110.

Hab. Australia.

The colouring of this species is characteristic; the upper half of the whorls is white, the lower half is violet-blue, and a portion of the violet-blue is left exposed in each whorl at the suture.

Species 146. (Mus. Cuming.)

Terebra polygyrata. *Ter. testâ gracili-turritâ, subpyramidali, fulvo-aurantiâ, albo-marginatâ, anfractibus angustis, rotundatis, supernè sulco pertuso divisis, concentricè crebricostatis, interstitiis lineari-sulcatis; aperturâ minimâ, columellâ constrictâ et contortâ.*

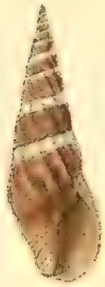
The many-whorled Terebra. Shell slenderly turreted, subpyramidal, fulvous-orange, edged with white, whorls narrow, rounded, divided at the upper part by a pricked groove, concentrically closely ribbed, interstices linearly grooved; aperture very small, columella constricted and twisted.

Deshayes, Pro. Zool. Soc. 1859, p. 301.

Hab. Philippine Islands; Cuming.

An elegantly convoluted species, in which the whorls are numerous and rounded, and their upper and lower divisions are marked by a striking contrast of fulvous-orange and white.

Terebra Pl. XXVII.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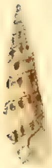
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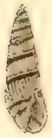
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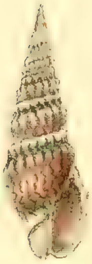
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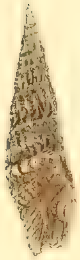
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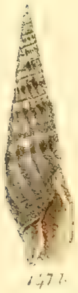
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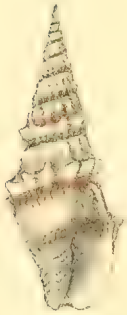
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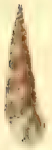
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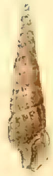
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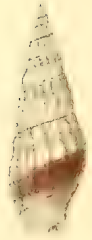
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TEREBRA.

Plate XXVII.

Species 147. (Fig. *a*, Mus. Metcalfe,
Fig. *b*, Mus. Cuming.)

Terebra rustica. *Ter. testâ fusiformi-oblongâ, acuminatâ, aurantio-rufâ vel cinereâ, infra suturas albo et purpureo obscurè fasciatâ, anfractibus declivi-convexis, indivisis, varicoso-costatis, costis subdistantibus, interstitiis lineari-sulcatis; aperturâ oblongâ, columellâ carinatâ, vix contortâ.*

The rustic Terebra. Shell fusiformly oblong, acuminated, orange-red or ash-colour, obscurely banded beneath the sutures with white and purple, whorls slopingly convex, undivided, varicosely ribbed, ribs rather distant, interstices linearly grooved; aperture oblong, columella keeled, scarcely twisted.

Hinds, Pro. Zool. Soc. 1843, p. 158.

Hab. —— ?

There is a very near relationship between this species and some abnormal varieties of *T. fulgurata* and *aciculata.* The basal columellar keel is often conspicuously coloured in all three.

Species 148. (Mus. Taylor.)

Terebra tenera. *Ter. testâ cylindraceo-oblongâ, subturritâ, lutescente, rufo infra suturas fasciatâ, anfractibus plano-convexis, indivisis, validè varicoso-costatis, costis distantibus, interstitiis concavis, nitentibus; aperturâ oblongâ, columellâ subcontortâ.*

The dainty Terebra. Shell cylindrically oblong, somewhat turreted, yellowish, banded beneath the sutures with red, whorls flatly convex, undivided, strongly varicosely ribbed, ribs distant, interstices concave, shining; aperture oblong, columella a little twisted.

Hinds, Pro. Zool. Soc. 1843, p. 158.

Hab. Ceylon. Straits of Malacca; Hinds.

This little species, with its distant varicose ribs, has somewhat the appearance of a *Mangelia.*

Species 149. (Mus. Cuming.)

Terebra pygmæa. *Ter. testâ cylindraceo-oblongâ, solidiusculâ, lutescente, ad suturas lineâ purpureo-castaneâ conspicuè cingulatâ, anfractibus convexis, indivisis, obliquè crebricostatis; aperturâ minimâ, columellâ tenuè laminatâ.*

The pygmy Terebra. Shell cylindrically oblong, rather solid, yellowish, encircled with a conspicuous purple-chestnut line at the sutures, whorls convex, undivided, obliquely closely ribbed; aperture very small, columella thinly laminated.

Hinds, Pro. Zool. Soc. 1843, p. 158.

Hab. Straits of Malacca (in seventeen fathoms, mud); Hinds.

A varicosely angled shell, considerably removed from the typical form of the genus.

Species 150. (Mus. Cuming.)

Terebra aciculata. *Ter. testâ fusiformi-ovatâ, acuminatâ, pallidè fulvâ, fusco infra suturas plumbeo fasciatâ, nodulis albidis, anfractibus convexis, supernè sulcatis et angulatis, ad angulum crenulato-nodulatis; aperturâ oblongâ, subamplâ, columellâ rectâ, carinatâ.*

The needle-pointed Terebra. Shell fusiformly ovate, acuminated, pale-fulvous, minutely freckled with brown, banded beneath the sutures with lead-colour, nodules whitish, whorls convex, grooved and angled round the upper part, crenulately noduled at the angle; aperture oblong, rather large, columella straight, keeled.

Buccinum aciculatum, Lamarck, Anim. sans vert. vol. x. p. 175.

Terebra aciculata, Hinds.

Hab. Acapulco, Xipixapi, Mexico (on the sands); Cuming.

A strong, crenulately shouldered species; the crenules sometimes amounting almost to tubercles.

Species 151. (Mus. Cuming.)

Terebra fulgurata. *Ter. testâ fusiformi-oblongâ, acuminatâ, albidâ aut fulvescente, castaneo fulguratâ, infra suturas plumbeo fasciatâ, anfractibus plicato-costatis, indivisis, in interstitiis lineari-sulcatis, sulcis interdum obsoletis; aperturâ oblongâ, columellâ conspicuè carinatâ, ad basin subrecurvâ.*

The lightning-marked Terebra. Shell fusiformly oblong, acuminated, whitish or fulvous, lightning-marked with chestnut, encircled with a lead-coloured band beneath the sutures, whorls plicately ribbed, undivided, linearly grooved in the interstices, grooves

sometimes obsolete; aperture oblong, columella conspicuously keeled, and a little recurved at the base.

PHILIPPI, Zeitschrift für Malac. 1846, p. 53; and 1847, p. 181.

Terebra arguta, Gould.

Hab. California, Mazatlan, Acapulco, Mexico.

The species may be at once recognized by its profuse linear brown waves.

Species 152. (Mus. Cuming.)

TEREBRA COSENTINI. *Ter. testâ obeso-fusiformi, acuminatâ, albâ, fulvo-fusco latifasciatâ, anfractibus supernè declivi-angulatis, ad angulum muricato-tuberculatis; aperturâ oblongâ, subamplâ, columellâ rectâ, carinatâ.*

THE COSENZA TEREBRA. Shell stoutly fusiform, acuminated, white, broadly banded with fulvous-brown, whorls slopingly angled round the upper part, thickly tubercled at the angle; aperture oblong, rather large, columella straight, keeled.

PHILIPPI, Enum. Moll. Sicil. vol. i. p. 227. pl. 11. f. 29.

Terebra nodosoplicata, Dunker.

Hab. Naples, West Africa, West Indies.

The evidence of this species inhabiting the Bay of Naples appears to be of very doubtful character.

Species 153. (Mus. Cuming.)

TEREBRA PHILIPPIANA. *Ter. testâ elongato-turritâ, angustâ, fusco-rubescente et albo æqualiter bipartitâ, anfractibus plano-convexis, indivisis, elongatè plicato-crenulatis; aperturâ parvâ, ovatâ, columellâ breviusculâ.*

PHILIPPI'S TEREBRA. Shell elongately turreted, narrow, banded in equal proportions with fuscous-red and white, whorls flatly convex, undivided, elongately plicately crenuled; aperture small, ovate, columella rather short.

DESHAYES, Pro. Zool. Soc. 1859, p. 289.

Hab. Marquesas Islands?

A slenderly acuminated glittering shell, in which the upper half of the whorls is transparent-white, the lower bright fuscous-red.

Species 154. (Mus. Taylor.)

TEREBRA POLYGONIA. *Ter. testâ gracili-turritâ, subpyramidali, fulvo-brunneâ, anfractibus declivi-planatis, sulco supernè divisis, validè varicoso-costatis, costis subdistantibus, interstitiis concavis, lineari-sulcatis; aperturâ parvâ, columellâ ad basin productâ et paululum recurvâ.*

THE MANY-CORNERED TEREBRA. Shell slenderly turreted, somewhat pyramidal, fulvous-brown, whorls slopingly flattened, divided at the upper part by a groove, strongly varicosely ribbed, ribs rather distant, interstices concave, linearly grooved; aperture small, columella produced at the base, and a little recurved.

Hab. —— ?

A minute fulvous-brown species, angled throughout with strong rather distant varicose ribs.

Species 155. (Mus. Brit.)

TEREBRA PULCHRA. *Ter. testâ turritâ, conico-subulatâ, acuminatâ, nitidâ, pallidâ, anfractibus subplanulatis, longitrorsum rectè plicato-costatis, supernè lineâ impressâ divisis, interstitiis lævigatis, anfractu ultimo pallidè lineato.*

THE BEAUTIFUL TEREBRA. Shell turreted, conically subulate, acuminated, shining, pale, whorls rather flattened, longitudinally straightly plicately ribbed, divided at the upper part by an impressed line, interstices smooth, last whorl faintly lineated.

HINDS, Pro. Zool. Soc. 1843, p. 151.

Hab. Marquesas (in seven fathoms); Hinds.

This shell, of which there is no other specimen than the original in the British Museum, I had overlooked until it was too late to figure it. It is a small, rather swollen shell, colourless, but characteristic.

TEREBRA.

	Plate.	Species.
aciculata (*Buc.*), Lam.	XXVII.	150
aciculina, *Lam.*	XXIII.	121
acumen, Desh.	XVIII.	85
acuminata, *Gray*	XXVI.	143
acuta, Desh.	XII.	47
Adansoni, Desh.	XXV.	135
addita, *Desh.*	XIX.	94
affinis, *Gray*	X.	39
Africana, Gray	IV.	12
albicostata, Adams and Reeve	XVI.	72
albida, *Gray*	XVII.	79
albocincta, Carp.	IV.	12
albomarginata, *Desh.*	XV.	65
albula, Menke	XVIII.	81
alveolata, *Hinds*	XIX.	89
amœna, *Desh.*	XVIII.	80
anomala, Gray	XXIII.	121
apicina, *Desh.*	XXV.	136
approximata, Desh.	XVIII.	83
Archimedis, Desh.	XII.	48
areolata, Adams and Reeve	XXII.	113
Argenvillei, Desh.	XVIII.	85
Argus, *Hinds*	VI.	21
armillata, *Hinds*	XVI.	72
aspera, *Hinds*	X.	40
Babylonia, *Lam.*	XI.	43
bacillus, *Desh.*	XXV.	134
badia, *Desh.*	VII.	25
Bermonti, Lorois	VI.	20
Bernardii, *Desh.*	XIII.	56
bifrons, *Hinds*	XIV.	62
bipartita, Desh.	XVIII.	81
bitorquata, Desh.	VI.	19
blanda, *Desh.*	XXII.	117
Bourguignata, Desh.	XXII.	111
brevicula, *Desh.*	XXII.	119
Bruguieri, *Desh.*	XVIII.	82
Buccinulum, *Desh.*	XX.	101
cælata, *Adams and Reeve*	XV.	64
cærulescens, *Lam.*	VII.	26
caliginosa, *Desh.*	XX.	100
cancellata, *Quoy*	XIV.	58
casta, Hinds	XVIII.	81
castanea, Hinds	VII.	25
castanea, Kiener	IX.	35
Cerithina, *Kiener*	X.	38
chalybeus, Martini	I.	3
Chinensis, Desh.	XI.	44
Chilensis, Desh.	IX.	33
chlorata, *Lamarck*	III.	11
cinctella, Desh.	XXII.	112
cinerea, Basterot	XXIII.	121
cinerea (*Buc.*), Born.	IX.	35
cingula, *Kiener*	XIV.	60
cingulifera, *Lam.*	XI.	44
circinata, Desh.	XII.	47
circumcincta, *Desh.*	XV.	70
columnaris, Desh.	XI.	44
columellaris, *Hinds*	XXII.	113
commaculata, Pfeiffer	VIII.	31
concinna, Desh.	XVIII.	85
consobrina, Desh.	VI.	23
consors, *Hinds*	I.	2
conspersa, *Hinds*	XXIV.	127
continua, *Desh.*	XXIII.	122
copula, *Hinds*	XIX.	92
corrugata, *Lam.*	VI.	19
Cosentini, *Phil.*	XXVII.	152
costata, Menke	XVIII.	81
crassula, Desh.	XVIII.	81
crenifera, Desh.	XI.	44
crenulata (*Buc.*), Linn.	II.	6
Crossei, Desh.	XX.	95
Cumingii, *Desh.*	VIII.	29
cuspidata, *Hinds.*	XXVI.	141
decorata, Desh.	XIX.	88
Deshayesii, *Reeve*	XI.	45
difficilis, *Desh.*	XVIII.	86
Dillwyni, *Desh.*	XVII.	74
dimidiata (*Buc.*), Linn.	VII.	27
dislocata (*Cerith.*) Say	IX.	32
dispar, *Desh.*	XXV.	137

	Plate.	Species.
duplicata (*Buc.*), Linn.	I.	3
Dussumieri, *Kiener*	II.	7
eburnea, Hinds	X.	39
elata, *Hinds*	XXIV.	128
elongata, Wood	II.	5
evoluta, *Desh.*	XIII.	55
exigua, *Desh.*	XXVI.	84
eximia, *Desh.*	XXI.	106
fatua, Hinds	XIV.	60
felina, Sow.	III.	8
fenestrata, *Hinds*	XXII.	14
festiva, Desh.	V.	16
fictilis, *Hinds*	XXVI.	145
fimbriata, Desh.	II.	6
flammea, *Lam.*	IV.	13
flammea, Lesson	II.	5
flava, *Gray*	XXIV.	126
flavescens, *Desh.*	XIV.	59
formosa, *Desh.*	XII.	49
Fortunei, *Desh.*	XIII.	53
frigata, *Hinds*	XXIV.	132
fulgurata, *Phil.*	XVII.	151
funiculata, *Hinds.*	XII.	48
fusco-maculata, Sow.	V.	16
geminata, Desh.	XIX.	93
gemmulata, *Kiener*	IX.	33
glabro, Desh.	I.	2
glauca, Hinds	X.	40
Gouldi, *Desh.*	VII.	24
gracilis, *Gray*	XXIV.	131
hastata (*Buc.*), Gmelin	XVIII.	81
Hindsi, Carp.	IV.	12
Hindsi, Desh.	XVIII.	82
histrio, *Desh.*	XII.	46
Hupei, Lorois	IV.	12
incolor, Desh.	XVIII.	81
incomparabilis, Desh.	IV.	13
inconstans, Hinds.	XXIII.	121
insignis, Desh.	V.	15
interlineata, *Desh.*	XII.	51
intertincta, Hinds.	IV.	12
Jamaicensis, Adams.	IX.	35
Jukesii, *Desh.*	XX.	97
Kieneri, *Desh.*	XXI.	110
Knorri, Gray	III.	11
lactea, Desh.	XXV.	134
lævigata, *Gray*	XXI.	108
lævis, Gray	V.	18
Lamarckii, Kiener	I.	3
lanceata (*Buc.*), Linn.	IX.	36
larvæformis, *Hinds*	X.	41
laurina, Hinds	IX.	35
lepida, *Hinds*	XX.	96
ligata, *Hinds*	XIX.	90
ligneola, Reeve	VII.	25
lima, *Desh.*	XII.	50
lingualis, *Hinds*	V.	15
livida, *Reeve*	XXII.	116
longiscata, *Desh.*	XXI.	103
Loroisii, Desh.	V.	18
Loroisii, Guerin	III.	10
luctuosa, Hinds	IX.	35
maculata (*Buc.*), Linn.	I.	4
marginata, Desh.	IV.	12
marmorata, *Desh.*	XIX.	91
Matheroniana, Desh.	XXIII.	121
mera, Hinds	XVIII.	81
Metcalfei, *Reeve*	XXVI.	139
micans, *Hinds*	XXV.	135
modesta, Desh.	XVIII.	85
monilis, *Quoy*	XI.	42
morbida, *Reeve*	XXIV.	133
muscaria, *Lam.*	III.	9
myuros, *Lam.*	VIII.	31
nana, *Desh.*	XXVI.	138
Nassoides, *Hinds.*	XXVI.	144
nebulosa, Kiener	VI.	21
nebulosa, Lorois	V.	18
nebulosa, *Sow.*	I.	1
nimbosa, *Hinds.*	IX.	37
nitida, *Hinds.*	XXII.	115
nodosoplicata, Dunk.	XXVII.	152
nodularis, *Desh.*	XXI.	105
obesa, *Hinds*	XXVI.	140
obsoleta, *Desh.*	XXI.	107
oculata, *Lamarck.*	V.	18
ornata, *Gray*	IV.	14
pallida, Desh.	XI.	44
Patagonica, D'Orbigny	IX.	33
Peasii, Desh.	XX.	99
penicillata, *Hinds*	XX.	98
pertusa (*Buc.*), Born	VI.	20
Petitii, Kiener.	IX.	32
Petiveriana, Desh.	X.	40
Philippiana, *Desh.*	XXVII.	153
picta, *Hinds.*	XXII.	112
plicata, *Grey*	XVII.	76
plicatella, Desh.	XXII.	115
plumbea, *Quoy*	XXII.	111
polygonia, *Reeve*	XXVII.	154

	Plate.	Species.
polygyrata, *Desh.*	XXVI.	146
prælonga, *Desh.*	VIII.	28
pretiosa, *Reeve*	VIII.	30
pulchella, *Desh.*	XVI.	71
pulchra, *Hinds.*	XXVII.	155
punctata, Gray	VI.	19
punctatostriata, Gray	XI.	44
puncticulata, *Desh.*	XX.	99
punctulata, Sow.	XI.	44
pura, *Desh.*	XV.	67
pygmæa, *Hinds*	XXVII.	149
radula, *Hinds*	XV.	68
raphanula, *Lam.*	XVII.	77
regina, Desh.	VI.	19
Reevei, Desh.	I.	3.
robusta, *Hinds.*	III.	10
roseata, *Adams and Reeve*	XXI.	104
rudis, *Gray*	IX.	34
rufo-cinerea, Carp.	IX.	34
rustica, *Hinds.*	XXVII.	147
Salleana, *Desh.*	XXIV.	129
scabrella, Lam.	VIII.	31
Senegalensis, *Lam.*	V.	16
serotina, *Adams and Reeve*	XV.	66
solida, *Desh.*	XXIII.	123
Souleyeti, *Desh.*	XVII.	78
Sowerbyana, *Desh.*	XIV.	63
specillata, *Hinds*	XVII.	75
speciosa, Desh.	V.	16
spectabilis, *Hinds*	XIX.	93
splendens, Desh.	VII.	27
straminea, *Gray*	XII.	47
striata, Gray	XI.	43
striata, Quoy	X.	39
striatula, Lam.	V.	16
strigata, *Sow.*	II.	5
strigillata (*Buc.*), Linn.	XVIII.	85
stylata, Hinds	IX.	35
subangulata, *Desh.*	XVIII.	89
subnodosa, Carp.	IV.	12
subulata (*Buc.*), Linn.	VI.	22
succinea, *Hinds*	V.	17
Swainsoni, *Desh.*	XXII.	118
tæniolata, Quoy	XIII.	57
Taylori, *Reeve*	XXIII.	124
tenera, *Hinds*	XXVII.	148
tessellata, *Gray*	XIX.	88
textilis, *Hinds.*	XXIV.	130
tiarella, *Desh.*	XXI.	109
tigrina (*Buc.*), Gmel.	III.	8
torquata, *Adams and Reeve*	XV.	69
Traillii, *Desh.*	XXVI.	142
tricolor, *Sow.*	XIII.	57
triseriata, *Gray*	XIII.	52
tristis, *Desh.*	XXI.	102
trochlea, *Desh.*	XIII.	54
tuberculosa, *Hinds*	XIV.	61
undatella, Desh.	XIV.	58
undulata, *Gray*	XVIII.	83
ustulata, *Desh.*	XVII.	73
varicosa, *Hinds*	XXIII.	120
variegata, *Gray*	IV.	12
venosa, *Hinds*	XX.	95
Verreauxi, Desh.	XVIII.	85
violascens, *Hinds.*	XXIV.	125
virginea, Desh.	I.	2
zebra, Kiener	II.	5

ADDENDA ET CORRIGENDA.

Sp. 10. *T. robusta.*—Add as synonym *T. Loroisii*, Guerin-Méneville.

Sp. 16. *T. Senegalensis.*—*Dele* from list of synonyms *T. cingula*, Kiener.

Sp. 18. *T. oculata.*—Add as synonym *T. nebulosa*, Lorois (*T. Loroisii*, Deshayes).

Sp. 20. *T. pertusa.*—Add as synonyms *T. Bermonti*, Lorois.

At the moment of completing my monograph I have received from M. Lorois his original types of the two foregoing species. His *T. nebulosa* is a young *T. oculata*, and his *T. Bermonti* is a richly-coloured *T. pertusa*. The figure of the latter in Journ. de Conch. is incorrectly drawn.

Sp. 25. For *T. ligneola*, Reeve, read *T. badia*, Deshayes.

When correcting the error made by Mr. Hinds in taking this shell for M. Kiener's *T. castanea*, I did not perceive that the error had been already discovered and corrected by M. Deshayes.

Sp. 58. *T. cancellata.*—Add as synonym *T. undatella*, Deshayes.

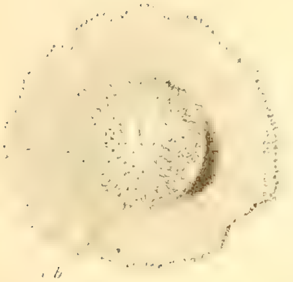
Sp. 85. *T. strigillata.*—*Dele* from list of synonyms *T. Matheroniana*, Desh.

MONOGRAPH

OF THE GENUS

ASPERGILLUM.

> "I beseech you,
> If you know aught which does behove my knowledge
> Thereof to be informed, imprison it not
> In ignorant concealment."—*Shakspeare.*



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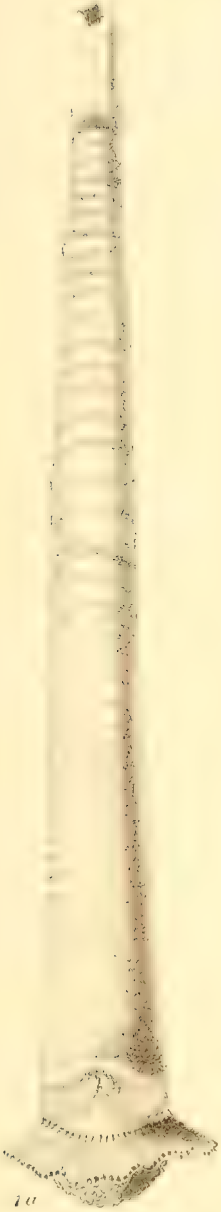

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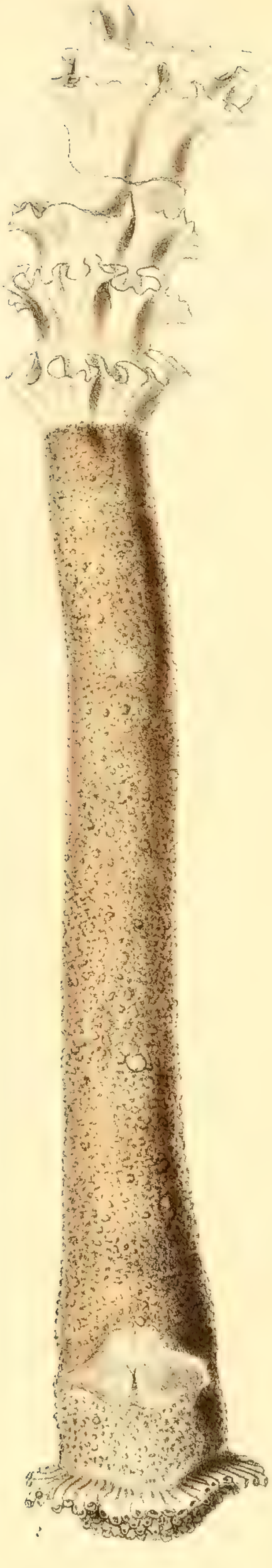

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Vincent Brooks, Imp.

ASPERGILLUM.

Plate I.

Genus ASPERGILLUM, *Lamarck.*

Testa valvis duabus æqualibus minutis ovatis, sæpissimè posticè angulatis, in pariete inferiori vaginæ longæ ferruminatis; vaginâ supernè perviâ, interdum attenuatâ, limbo simplici, interdum subrectâ, limbo subampliter bifariam ad octofariam foliaceo, infernè clavatâ, disco perforato plerumque tubulo-fimbriato clausâ.

Shell with two equal minute ovate valves, mostly angled posteriorly, soldered into the lower wall of a long sheath; sheath at the upper part open, sometimes attenuated, with the edge simple, sometimes nearly straight, with the edge rather largely two to eight times furbelowed, at the lower part club-shaped, closed by a perforated, generally tubularly fringed disc.

The *Aspergillum* is a siphoned bivalve, which ceases in an early stage of its existence to live free, and while yet no more than the eighth of an inch in length, sinks into the sand or adheres to shell or stone, and directs its calcifying functions to the formation of a tubular sheath. The little valves, at this stage of the animal's metamorphosis, if it may be so called, appear to be discarded, and taking henceforth no part in the economy, they become soldered into the wall of the sheath. Upwards the sheath enlarges with the growth of the siphons for their special protection; downwards the animal closes in the sheath by a disc, not only fissured and perforated, but bordered, in most species, by a profusely tubuled frill. The mantle of the animal, observed by Dr. Rüppell, on the shores of the Red Sea, changes and enlarges, and a number of tentacles are emitted from the edge, each one corresponding with a tubular perforation of the shell. Frequent distortion is imparted to the shell, more especially to the disc end of it, the seat of the mollusc, according to the circumstances of its place of habitation, and when affixed to shell or stone the disc may be scarcely recognizable. Shells with the strength of growth even of *Spondylus*, become distorted by their inability to contend with the outward pressure of foreign bodies. Shells, therefore, of the delicate and comparatively fragile growth of *Aspergillum*, would be liable to extreme contortion; and so it is. *Aspergillum vaginiferum*, which sinks into sand, as may be seen by the particles agglutinated to the shell, throws up a bold erect sheath without let or hindrance, and when it reaches the surface, the edge, as in *Clavagella*, becomes elegantly furbelowed. A season of rest ensues; another effort is made to extend the sheath, the growth is pushed on, but the calcifying energies of the mollusc either are not needed, or are enfeebled. A little is added to the sheath, and the edge is again furbelowed, and in some specimens as many as eight times this process has been repeated. In adherent species, such as *A. Strangei*, one specimen of which was found affixed to the inner cleft of a mussel-hinge and the other to a stone, the disc is completely smashed in, as it were, and the sheath being free, not pushed through sand or any debris of shells or pebbles, is smooth and tortuous, faintly coloured by an enveloping periostracum. I incline to dissent from Dr. Gray's views that the sheath of the adhering *A. Strangei* is an enlargement of the primitive pair of valves, while in the non-adhering species it is analogous to the tubular sheath of the *Teredo*. The sheath of *Aspergillum* has, as in *Teredo*, a specific limit and mode of growth, but whether by a stretch of philosophical induction it be regarded as an enlargement of the primitive pair of valves or not, the relation between the valves and the sheath I hold to be the same, whether living buried in sand or adhering in an exposed manner to shell or stone.

Dr. Gray also draws a distinction between species which have a wavy depression around the pair of valves, and those which have not, regarding the wavy depression as a part of the valves of which only the umboes are exposed. My own view is, that, at the time of the metamorphosis of the mollusc, the valves are not larger in any species than are defined by the smaller outline. When it is considered that the valves are cast at this time, but not entirely, inasmuch as they are appropriated as material for a nucleus from which to develope a sheath, it is only reasonable to suppose that the new sheath-matter would, for a time, obtain a wavy deposit corresponding with the outline of the nucleus.

Nineteen species of *Aspergillum* are described in the following monograph, but it is more than probable that they will be reduced by further researches to about a dozen. They have been named in Mr. Cuming's collection by Dr. Chenu of Paris, and I have preferred to give them as he gave them, except in a few instances, where the identity with others was too obvious to be overlooked. More specimens of the seven or eight doubtful species are needed before rejecting them as synonyms, or discussing their characters with anything like critical accuracy. There are six well marked types of *Aspergillum*:—1. *A. vaginiferum* (*Warnea*, Gray), in which the sheath is furbelowed at the top, and has a well-fringed disc at the bottom, with a wavy depression around the valves. 2. *A. Cumingianum*, in which the sheath has a clumsy distorted growth peculiar to the species, and is closed at the bottom by a rudely convex disc, perforated by a bunch of tubes, not radiating in a frill; the formation of the sheath commences round the valves in a depressed wavy manner, as in the preceding species, and Dr. Gray places it for this reason in his genus *Warnea*. I do not regard this wavy depression as having existed whilst the mollusc was in the bivalve stage of its existence, and would refer *A. Cumingianum* to another section. 3. *A. Javanum*, *pulchrum*, and *radix* (*Aspergillum*, *Penicillus*, and *Clepsidra*, Gray), in which the sheath is attenuated, and is closed in at the bottom by an elaborately perforated disc, with a more or less densely branched, finely tubed frill. 4. *A. tuberculatum* and *clavatum* (*Arytene*, Gray), in which the sheath is slender, agglutinating sand and fine pebbles, and is closed at the bottom by a disc of small size, only lightly promiscuously perforated, encircled by a regular well developed frill of a characteristic sloping growth; the valves of this type have the shelly wall of the sheath projected over them in a peculiar biforked manner. 5. *A. agglutinans* and *Philippinense* (*Foegia*, Gray), in which the tube is club-shaped, densely agglutinated with sand, pebbles, and shell-debris, and is contracted below the disc, taking the form of a small clump of short, wider tubes. 6. *A. Strangei* (*Humphreyia*, Gray), the adherent species already described, of which Dr. Gray constitutes a separate subfamily.

All the *Aspergilla* belong to the Eastern Hemisphere. *A. vaginiferum* inhabits the Red Sea, *A. Javanum* and its allies inhabit the eastern seas, about the Philippine Islands, Java, Ceylon, and Singapore, and the more distorted forms are from Australia and New Zealand.

Species 1. (Fig. *a*, *b*, Mus. Cuming.)

Aspergillum annulosum. *Asp. testâ valvis sublatè ovatis, tumidiusculis; vaginâ elongato-attenuatâ, undique undato-annulosâ; fimbriâ peramplâ, regulari, tubulis longis, minimis, confertis; disco valdè convexo, perforationibus parvis, numerosis, parum tubulosis.*

The ringed Aspergillum. Shell with the valves rather broadly ovate, somewhat swollen; sheath elongately attenuated, wave-ringed throughout; frill very large, regular, tubes long, very small, close-set; disc very convex, with the perforations small, numerous, and but little tubular.

Deshayes, MS. in Mus. Cuming. Gray, Pro. Zool. Soc. 1858, p. 312.

Hab. Singapore.

The little valves of this species are smaller in proportion to those of its nearest ally, *A. Javanum*, and they are more swollen, short and broad. The fringe is composed of a remarkably close-set row of slender tubes, very regular in their development, as shown at Fig. 1 *b*. The conspicuous ringed growth of the sheath of the shell is the feature after which the species is named.

Species 2. (Mus. Cuming.)

Aspergillum vaginiferum. *Asp. testâ valvis oblongo-ovatis, concentricè tenuissimè lirato-striatis, posticè angulatis; vaginâ longissimâ, subrectâ, arenulas agglutinante, limbo ad superam extremitatem conspicuè trifariam ad quinquefariam foliato; fimbriâ brevi, tubulis subamplis, liberis, sæpè irregularibus; disco convexo, amplo, perforationibus amplis, tumidiusculis.*

The sheath-bearing Aspergillum. Shell with the valves oblong-ovate, concentrically very finely ridge-striated, posteriorly angled; sheath very long, nearly straight, agglutinating grains of sand, with the edge of the upper extremity conspicuously foliated; frill short, with the tubes rather large, free, and often irregular; disc convex, large, with the perforations large, and rather swollen.

Lamarck, Anim. sans vert. vol. vi. p. 21.

Warnea vaginifera, Gray.

Hab. Red Sea.

This fine species, of which *A. Delessertianum* is probably a variety, by much the largest of the genus, is distinguished from all others by the treble and sometimes quintuple foliation of the upper extremity of the sheath. The valves are of an oblong form, showing five concentric lines of growth, and are distinctly angled posteriorly.

Species 3. (Mus. Cuming.)

Aspergillum Javanum. *Asp. testâ valvis sublatè ovatis, tumidiusculis; vaginâ elongato-attenuatâ, subannulosâ; fimbriâ amplâ, irregulari, subflexuosâ, tubulis parvis, longis, confertis, hic illic ramoso-agglomeratis; disco valdè convexo, perforationibus numerosis, parvis, parum tubulosis.*

The Java Aspergillum. Shell with the valves rather broadly ovate, somewhat swollen; sheath elongately attenuated, faintly ringed; frill large, irregular, rather flexuous, tubes small, long, close-set, here and there ramosely agglomerated; disc very convex, perforations numerous, small, but little tubular.

Lamarck, Anim. sans vert. vol. vi. p. 20.

Phalus testaceus, Lister.

Aspergillum Listeri, Gray.

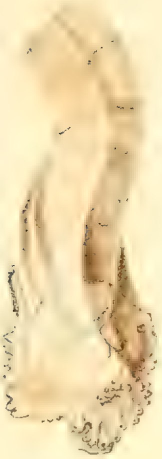
Penicillus Javanus, Bruguière.

Brechites Javanus, Adams.

Aspergillum sparsum, Sowerby.

Hab. Java.

The sheath of this species presents very obvious indications of the ringed growth of *A. annulosum*. The frill is more irregular, the tubes inclining, agglomerate here and there in branching tufts.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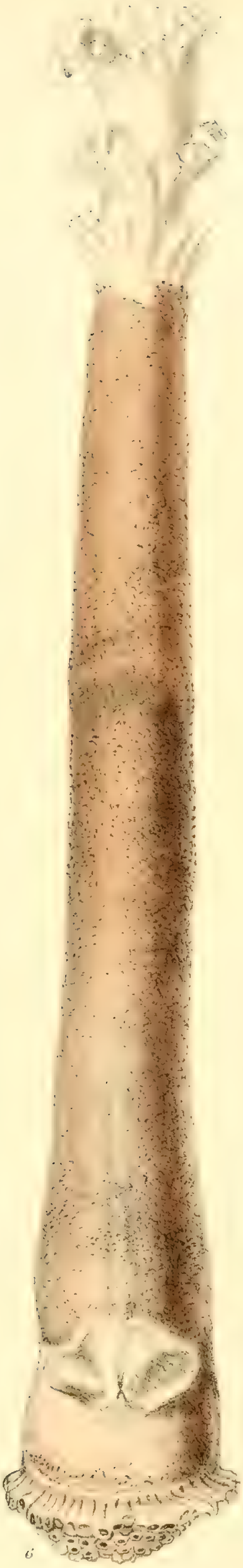

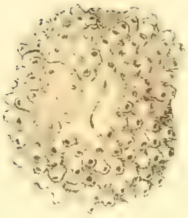
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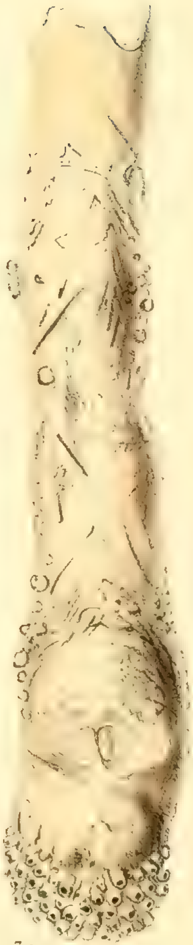
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Vincent Brooks, Imp

ASPERGILLUM.

Plate II.

Species 4. (Mus. Cuming.)

Aspergillum Strangei. *Asp. testâ adhærente, fuscescente-carneo tinctâ, valvis subquadrato-ovatis, posticè latioribus, subangulari-expansis; vaginâ brevi, distortâ, quadrato-rotundatâ, ad angulas quatuor obtusè carinatâ; fimbriâ discoque lateraliter compressissimè distortis, perforationibus perpaucis, irregulariter sparsis, parum tubulosis.*

Strange's Aspergillum. Shell adherent, fuscous flesh-tinted, valves somewhat squarely ovate, posteriorly broader, and rather angularly expanded; sheath short, distorted, squarely rounded, obtusely keeled at the four angles; frill and disc laterally very compressly distorted, perforations very few, irregularly scattered, but little tubular.

Adams, Pro. Zool. Soc. 1852, p. 91.

Humphreyia Strangei, Gray.

Hab. Sydney Bay, Australia; Strange.

If the animal of this very interesting form of *Aspergillum* could speak, its remarks on Dr. Gray's ingenious description of its structure, habits, and shell, would probably resemble those of our great landscape painter, Turner, on the criticisms of his pictures by Ruskin,—"Ah! he sees a great deal more in them than I can, or ever intended should be seen." While Mr. Arthur Adams, the original describer of the species, says perhaps too little about it, Dr. Gray says too much. The peculiarities of *Aspergillum Strangei* are, that it is an adherent species, and secondly, that it forms its sheath in a square. Like the shells of all adherent species of a genus, compared with those that live free, the shell of *A. Strangei* has a very distorted growth, and the part of attachment being the most delicate part of the shell, is the part most distorted. One of the only two specimens known, has, on ceasing its free habit, commenced to attach itself within the hinge portion of a muscle, the other has been attached to stone in a manner obviously even less commodious to the symmetry of its growth; and many of the points seized by Dr. Gray as points of generic character, are contortions arising out of these peculiar circumstances of habitation. The disc is smashed in, as it were, and the frill is pushed out at the edge of the place of attachment, and both are an irregular heap of contortion. Dr. Gray says that "the tube at the end of the shell is an extension of the normal shelly valves of the animal;" but it is not more so than in all other *Aspergilla*. Dr. Gray argues that the shelly tube of the non-adhering species of *Aspergillum* is analogous to the shelly tube of *Teredo*. I incline to think, however, that the tube of *Aspergillum* is as much an extension of the normal shelly valves in any species as in the one before us. There is no more definite outline internally to the valves of the other *Aspergilla* than of this. The animal of *A. Strangei* is not known.

Species 5. (Mus. Cuming.)

Aspergillum semifimbriatum. *Asp. testâ valvis sublatè ovatis, posticè subangulatis, vaginâ tumidiusculâ, sæpè distortâ, infernè contractâ; fimbriâ suberectâ, tubulis subelongatis, dichotomis; disco parviusculo, perforationibus simplicibus.*

The half-frilled Aspergillum. Shell with the valves rather broadly ovate, slightly angled posteriorly; sheath rather swollen, often distorted, contracted at the lower end; frill somewhat erect, with the tubes rather long and forked; disc rather small, perforations simple.

Chenu, Illus. Conch. *Asp.* p. 4. pl. 3. f. 5, 5 *a*.

Hab. ——?

Of this species I can only give a description and figure, without comment, of the single specimen, not in very good condition, named by Dr. Chenu, in Mr. Cuming's collection.

Species 6. (Mus. Cuming.)

Aspergillum Delessertianum. *Asp. testâ valvis oblongo-ovatis, concentricè tenuissimè lirato-striatis, posticè angulatis; vaginâ longissimâ, subrectâ, minutè arenatâ, limbo ad superam extremitatem trifariam ad octofariam foliato; fimbriâ brevi, tubulis subamplis, tumidis; disco peramplo, convexo, perforationibus amplis.*

Delessert's Aspergillum. Shell with the valves oblong, concentrically very finely ridge-striated, posteriorly slightly angled; sheath very long, nearly straight, minutely sandy, lip at the upper extremity thrice to eight times foliated; frill short, tubes rather large and swollen; disc very large, convex, with the perforations large.

June, 1860.

CHENU, Illus. Conch. *Asp.* p. 3. pl. 1. f. 2, 2 *a.*
Hab. Red Sea.

The specimens separated under this name, in Mr. Cuming's collection by Dr. Chenu, from *A. vaginiferum* are longer, agglutinated with finer sand, with the disc larger, and frill less tubular. It is extremely doubtful however whether any value can be attached to these points of difference.

Species 7. (Fig. 7 *a*, 7 *b*, Mus. Cuming.)

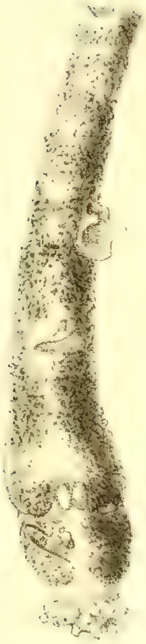
ASPERGILLUM CUMINGIANUM. *Asp. testâ valvis oblongo-ovatis, posticè expansis et angustè angulatis; vaginâ tumidiusculâ, rudi, irregulari, calculis et arenulis agglutinante; fimbriâ nullâ; disco rudè convexo, plus minus distorto, perforationibus subpapillaribus.*

CUMING'S ASPERGILLUM. Shell with the valves oblong-ovate, posteriorly expanded and narrowly angled; sheath rather swollen, rude, irregular, agglutinating pebbles and fine sand, no frill; disc rudely convex, more or less distorted, perforations rather papillary.

CHENU, Illus. Conch. *Asp.* p. 2. pl. 3. f. 4. 4 *a.*
Aspergillum australe, Chenu.
Warnea australis, Gray.
Hab. Australia.

A fine species of the rude distorted type without frill. The disc is copiously perforated, and the perforations are somewhat papillary.

Aspergillum Pl. III.



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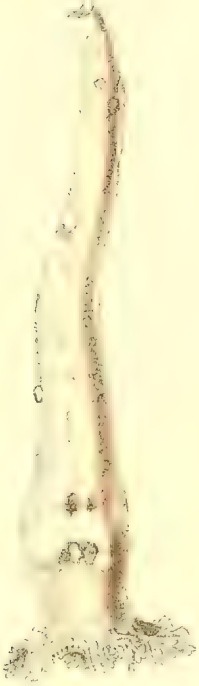

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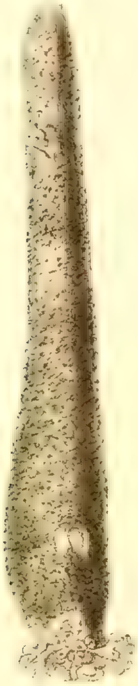

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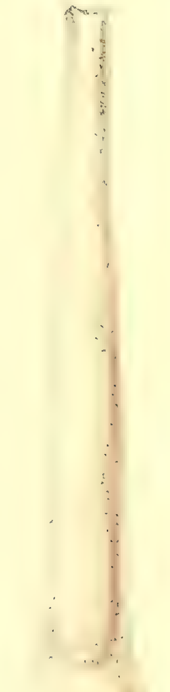

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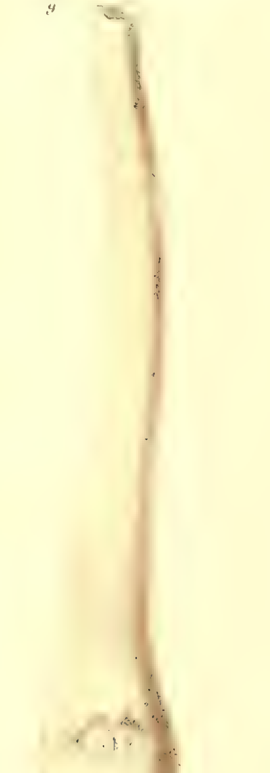

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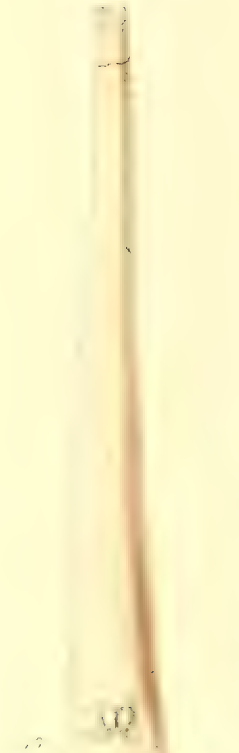

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ASPERGILLUM.

PLATE III.

Species 8. (Mus. Cuming.)

ASPERGILLUM ZEBUENSE. *Asp. testâ valvis oblongo-ovatis, posticè subexpansis; vaginâ arenulas agglutinante, supernè subattenuatâ, utrinque longitudinaliter sulcatâ, infernè abruptè contractâ; fimbriâ subirregulari, tubulis distinctis, liberis; disco parvo, perforationibus perpaucis, tubulosis.*

THE ZEBU ASPERGILLUM. Shell with the valves oblong-ovate, posteriorly rather expanded; sheath agglutinating grains of sand, slightly attenuated at the upper part, longitudinally grooved on each side, abruptly contracted at the lower; frill rather irregular, tubes distinct, free; disc small, perforations very few, tubular.

CHENU, Illus. Conch. *Asp.* p. 3. pl. 3. f. 3, 3 *a.*

Hab. San Nicolas, Island of Zebu, Philippines.

An interesting, well-marked species, in which the disc is contracted to an area with frequently only four perforations, while the tubes of the frill are also few in number and free.

Species 9. (Mus. Cuming.)

ASPERGILLUM DICHOTOMUM. *Asp. testâ valvis oblongo-ovatis, subtrapezoideis; vaginâ breviusculâ, supernè gradatim attenuatâ, sæpè distortâ, infernè subcontractâ; fimbriâ subamplâ, valdè irregulari, tubulis tenuibus elongatis promiscuè distortis et agglomeratis, sæpè dichotomis; disco parviusculo, convexo, minutè perforato.*

THE DICHOTOMOUS ASPERGILLUM. Shell with the valves oblong-ovate, somewhat trapezoid; sheath rather short, gradually attenuated towards the upper part, often distorted, slightly contracted at the lower; frill rather large, very irregular, with the tubes elongated, promiscuously distorted and agglomerated, often dichotomous; disc rather small, convex, minutely perforated.

CHENU, Illus. Conch. *Asp.* p. 3. pl. 2. f. 6, 6 *a.*

Hab. Singapore.

This species, collected in great plenty by Mr. Cuming, at Singapore, has a most irregular frizzly frill, with the tubes dichotomously branched or forked.

Species 10. (Mus. Cuming.)

ASPERGILLUM PHILIPPINENSE. *Asp. testâ valvis suboblongo-ovatis, posticè subexpansis; vaginâ arenulas agglutinante, supernè subattenuatâ, utrinque longitudinaliter sulcatâ, infernè abruptè contractâ; fimbriâ irregulari, tubulis elongato-distortis, liberis; disco parvo, perforationibus perpaucis, tubulosis.*

THE PHILIPPINE ASPERGILLUM. Shell with the valves rather oblong-ovate, somewhat expanded posteriorly; sheath agglutinating grains of sand, rather attenuated, and grooved on both sides at the upper part, abruptly contracted at the lower; frill irregular, with the tubes elongately distorted and free; disc small, perforations very few, tubular.

CHENU, Illus. Conch. *Asp.* p. 3. pl. 4. f. 7, 7 *a.*

This, I fear, is only a variety of *A. Zebuense*, in which the frill is more irregular, with the tubes rudely and variously distorted.

Species 11. (Mus. Cuming.)

ASPERGILLUM RADIX. *Asp. testâ valvis ovatis, utrinque subangulatis; vaginâ supernè compressâ et longitudinaliter sulcatâ, infernè globoso-tumidâ, deinde angustè contractâ; fimbriâ amplâ, tubulis elongatis, confertis, parum irregularibus; disco parvo, profusè minutè perforato.*

THE ROOT ASPERGILLUM. Shell with the valves ovate, slightly angled at each end; sheath compressed, and longitudinally grooved at the upper part, globosely swollen, and then narrowly contracted at the lower; frill large, with the tubes elongated, crowded, but little irregular; disc small, profusely minutely perforated.

DESHAYES, MS. in Mus. Cuming.

Penicillus radix, Gray.

Hab. Amboyna.

A species of elegant and very characteristic growth, but more specimens are needed to show that the distinguishing characters are permanent. Mr. Cuming has three specimens all exactly alike.

Species 12. (Mus. Cuming.)

ASPERGILLUM DISJUNCTUM. *Asp. testâ valvis latè ovatis, parviusculis; vaginâ supernè attenuatâ, infernè tumidiusculâ, deinde subcontractâ; fimbriâ amplâ, valdè irregulari, tubulis longissimis, hic illic valdè extensis et* *distortis; disco convexo, perforationibus parvis, versus fimbriam tubulosis.*

THE DISJOINED ASPERGILLUM. Shell with the valves broadly ovate, rather small; sheath attenuated at the upper part, rather swollen, and then contracted at the lower; frill large, very irregular, with the tubes very long, here and there much extended and distorted; disc convex, with the perforations small, tubular towards the frill.

DESHAYES, MS. in Mus. Cuming.

Hab.——?

The frill of this species is of a remarkably wild disjointed growth, and the little valves are rather more than usually remote from it.

Species 13. (Mus. Cuming.)

ASPERGILLUM PULCHRUM. *Asp. testâ valvis ovatis, anticè subattenuatis; vaginâ angustâ, obscurè annulosâ; fimbriâ peramplâ, profusè ramosâ, tubulis prælongis, minutis, crispatis, numerosissimis, irregulariter dichotomis; disco minutè perforato, perforationibus spinoso-tubulosis.*

THE BEAUTIFUL ASPERGILLUM. Shell with the valves ovate, rather attenuated anteriorly; sheath narrow, obscurely ringed; frill very large, profusely branched, tubes very long, minute, curled, very numerous, irregularly forked; disc minutely perforated, perforations spinosely tubed.

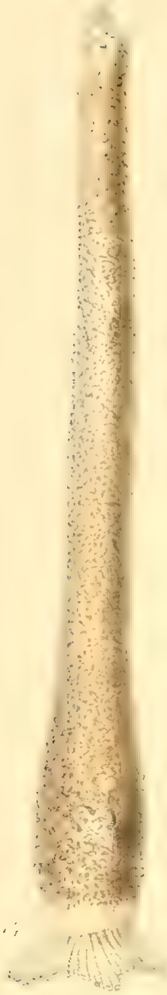
DESHAYES, MS. in Mus. Cuming.

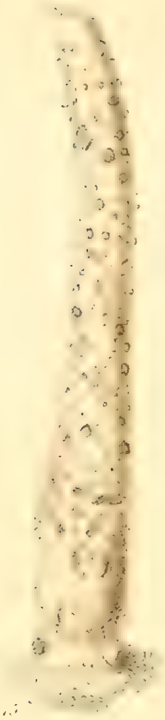
Aspergillum Javanum, var. Chenu.

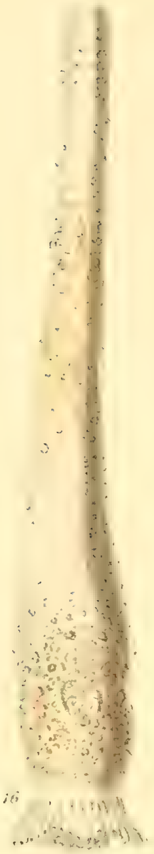
Hab. Singapore.

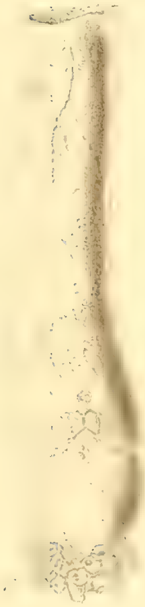
An elegant species, allied to the larger *A. Javanum*, in which the frill is developed with the profusion of a shock of hair.

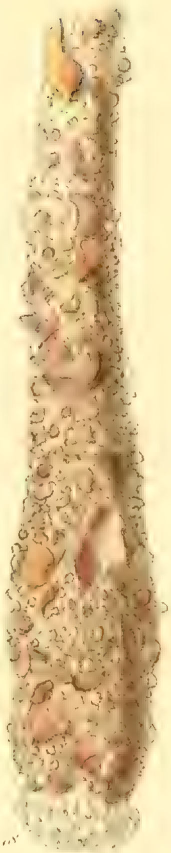
Aspergillum Pl. IV.

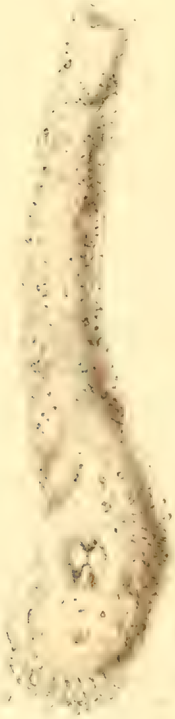












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ASPERGILLUM.

Plate IV.

Species 14. (Mus. Cuming.)

Aspergillum clavatum. *Asp. testâ valvis oblongo-ovatis, vaginæ prolatione bifurcatâ partim indutis; vaginâ longâ, attenuatâ, curvatâ, arenulas calculosque minutos agglutinante; fimbriâ regulariter declivi, tubulis subelongatis, confertis, hic illic dichotomis; disco parvo, perforationibus paucis, valdè irregularibus, interdum subtubulosis.*

The club-shaped Aspergillum. Shell with the valves oblong-ovate, partially covered with a bifurcated hood of the sheath; sheath long, attenuated, curved, agglutinating sand and minute pebbles; frill regularly sloping, tubes rather elongately close-set, here and there forked; disc small, perforations few, promiscuous, very irregular, sometimes tubular.

Chenu, Illus. Conch. *Asp.* p. 4. pl. 4. f. 4, 4 *a.*
Arytene tuberculata, var., Gray.
Hab. —— ?

The valves of this species are partially covered by a bifurcated tubercular hood projecting from the shield. The disc of the shell is small, and the perforations are few and extremely irregular.

Species 15. (Mus. Cuming.)

Aspergillum incrassatum. *Asp. testâ valvis oblongo-ovatis, vaginæ prolatione bifurcatâ partim indutis; vaginâ mediocri, subcontortâ, calculos parvos sparsim agglutinante; fimbriâ plus minus irregulariter distortâ, tubulis hic illic dichotomis; disco parvo, perforationibus paucis, valdè irregularibus.*

The thickened Aspergillum. Shell with the valves oblong-ovate, partially covered by a bifurcated hood of the sheath; sheath moderate, somewhat contorted, sparingly agglutinating small pebbles; frill more or less irregularly distorted, tubes here and there forked; disc small, perforations few, very irregular.

Chenu, Illus. Conch. *Asp.* p. 4. pl. 4. f. 2. 2 *a*, *b.*
Aspergillum Recluzianum, Chenu.
Arytene tuberculata, var., Gray.
Hab. —— ?

It is impossible to say whether this is or is not a variety of the preceding species without a more extended series of specimens. It has a more irregular, distorted growth, which may be permanent, and not the result of accident.

Species 16. (Mus. Cuming.)

Aspergillum tuberculatum. *Asp. testâ valvis ovatis, vaginæ prolatione bifurcatâ partim indutis; vaginâ attenuatâ, subcurvatâ, arenulas calculosque parvos agglutinante; fimbriâ regulariter declivi, contractâ, tubulis subelongatis, confertis, hic illic dichotomis; disco parvo, perforationibus paucis, valdè irregularibus.*

The tubercled Aspergillum. Shell with the valves ovate, partially covered by a bifurcated hood of the sheath; sheath attenuated, slightly curved, agglutinating sand and small pebbles; frill regularly sloping, contracted, tubes elongated, close-set, here and there forked; disc small, perforations few, very irregular.

Chenu, Illus. Conch. *Asp.* p. 3. pl. 2. f. 3, 3 *a*, *b*, *c*, *d.*
Aspergillum ornatum, Chenu.
Arytene tuberculata, Gray.
Hab. Moluccas.

The valves of this species appear to me broader than those of the two preceding species, and the frill more slopingly contracted, but the alleged distinction is far from satisfactory.

Species 17. (Mus. Cuming.)

Aspergillum Novæ-Zelandiæ. *Asp. testâ valvis ovatis, posticè angulato-expansis; vaginâ rudi, irregulari, subcylindraceâ, infernè contractâ; fimbriâ indistinctâ, bi-triseriatim tubulosâ, tubulis brevibus, amplis, liberis; disco convexo, perforationibus perpaucis.*

The New Zealand Aspergillum. Shell with the valves ovate, posteriorly angularly expanded; sheath rude, irregular, somewhat cylindrical; frill indistinct, with two to three rows of tubes, which are short, large, free; disc convex, with the perforations very few.

Lamarck, Anim. sans vert. v. 6. p. 21.
Hab. New Zealand.

A shell of curiously irregular growth, in which the frill is a convex or contracted branch of well-defined short tubes of rather wide diameter, sometimes distorted in a rather grotesque manner by the circumstance of its habitation.

June, 1860.

Species 18. (Mus. Cuming.)

Aspergillum agglutinans. *Asp. testâ valvis (obtectis); vaginâ clavatâ, arenulas, calculos, et conchas densè agglutinante; fimbriâ vix nullâ, tubulis brevissimis, subamplis, irregularibus; disco convexo, sparsim perforato, perforationibus subamplis, subpapillaribus.*

The agglutinating Aspergillum. Shell with the valves (covered); sheath club-shaped, closely agglutinating sand, pebbles, and fragments of shells; frill scarcely any, tubes very short, rather large, irregular; disc convex, sparingly perforated, perforations rather large and slightly papillary.

Lamarck, Anim. sans vert. vol. vi. p. 21.
Aspergillum Novæ-Hollandiæ, Chenu.
Foegia agglutinans, Gray.

Hab. New Holland.

The tube of this species is particularly densely agglutinated with pebbles and fragments of shells. The disc is small, and somewhat rudely formed, with the perforations rather large.

Species 19. (Mus. Cuming.)

Aspergillum incertum. *Asp. testâ valvis oblongo-ovatis; vaginâ clavatâ, rudi; fimbriâ discoque valdè distortis, tubulis nunc brevibus, liberis, nunc longioribus, variè agglomeratis.*

The doubtful Aspergillum. Shell with the valves oblong-ovate; sheath club-shaped, rude; frill and disc much distorted, tubes sometimes short, free, sometimes longer, variously agglomerated.

Chenu, Illus. Conch. *Asp.* p. 4. pl. 4. f. 6, 6 *a*, 5, 5 *a*.

Hab. Australia.

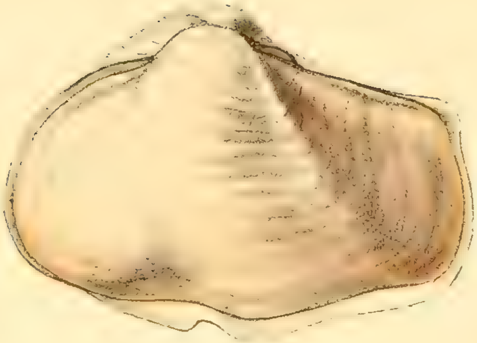
This may probably be a variety of *A. Novæ-Zelandiæ*. The specimens of both species, so far as they are at present known, are much distorted, and not in very good condition.

MONOGRAPH

OF THE GENUS

THRACIA.

> “ Pro exercitu gymnastico et palæstrico hoc habemus,
> Echinos, Lepades, Ostreas, Bulanos captamus, Conchas.’
>
> *Plautus.*



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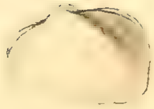

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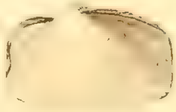

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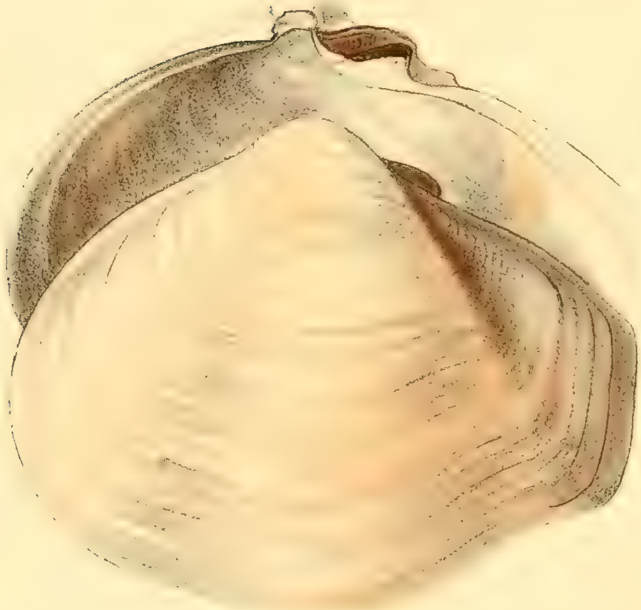

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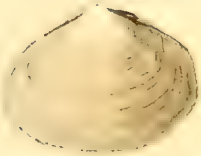

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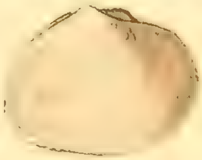

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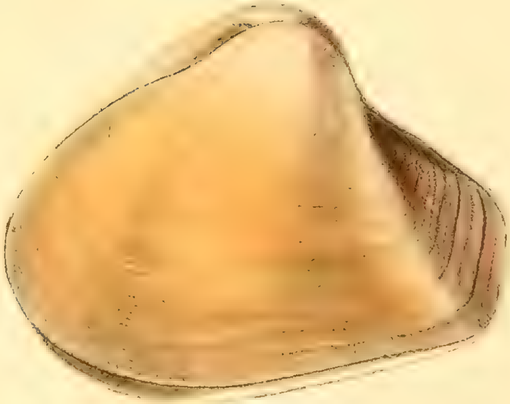


6

Vincent Brooks Imp

THRACIA.

Plate I.

Genus THRACIA, *Leach.*

Testa ovata vel oblonga, plus minus inæquilateralis et inæquivalvis, nunc depressa, nunc gibbosa, albida, plerumque granoso-scabrosa, epidermide tenui partim induta, latere postico sæpissimè longiore subangulato, sæpè truncato, plus minus hiante, antico rotundato, valvâ sinistrâ interdum subplanulatâ. Cardo fulcro horizontali variè incrassato in utrâque valvâ, internè excavato, ligamentum recipiente, cavitate ligamentario anticè aperto, ossiculo crescentiformi libero annexo; ligamentum partim externum. Impressio pallii profundè imbuta; musculorum parvæ, dissimilares.

Shell ovate or oblong, more or less inequilateral and inequivalve, sometimes depressed, sometimes gibbous, whitish, generally granosely scabrous, partially covered with a thin epidermis, posterior side generally the longer, slightly angled, often truncated, more or less gaping, anterior side rounded, left valve sometimes rather flat. Hinge with a horizontal variously thickened fulcrum in each valve, internal excavated receiving the ligament, ligamentary cavity anteriorly open, with a free, crescent-shaped ossicle annexed; ligament partially external. Impression of the mantle deeply marked; impressions of the muscles small, dissimilar.

Thracia is one of a family of genera grouped together by M. Deshayes under the title of *Osteodesmata*, in which the hinge-cartilage is partly external and partly internal, the inner portion being contained within a shelly cavity, which at its fullest development is projected into a jutting out, spoon-shaped process. It is in *Anatina* and *Periploma* that the spoon process is most conspicuous. In *Thracia* it takes the form of a thickened marginal fulcrum in each valve, and when the valves are closed and the fulcra are in contact, with the ligament between them, an opening appears internally at the anterior end; and we have the authority of observers for stating that at this point a loose crescent-shaped ossicle is annexed. This bony appendage or ossicle I have never seen. Notwithstanding all the care with which Mr. Cuming has collected by far the finest series of *Thraciæ* known, he has never obtained the ossicle. Being free, it is, doubtless, lost when the animal is extracted; and so variously modified is the hinge of the different species of *Thracia*, it is by no means certain that they all have it.

It was by an English naturalist, Dr. Leach, that the genus was originally founded; two of the largest and most characteristic species being denizens of the shores of Cornwall and Devon. The earlier British writers had a *Mya declivis*, which may have been a *Thracia*, but the identification of it is encompassed with doubt. Pennant had a *Mya declivis*, which he describes as furnishing a favourite dish among the gentry of the Hebrides: but this, it will be seen, must have been a *Mya arenaria*. Donovan, Conrad, and Turton had each their *Mya declivis*, all different species, *T. pubescens*, *Conradi*, and *phaseolina;* the name *declivis* therefore falls to the ground. The genus, as introduced by Leach, was quickly adopted on the continent, and we now present it with twenty-two species.

In addition to the two large *Thraciæ* of our own south-western coast we have a large species of similar type on either side of us, one, *T. corbuloides*, inhabiting the western Mediterranean, and the other, *T. Conradi*, inhabiting the Bay of Massachusetts. Lower down on the American continent, at Honduras, California, and St. Thomas's Island, is the home of a very distinct type, in which the shell is waved obliquely with large plicated wrinkles, *T. plicata* and *magnifica;* and this type curiously appears in the China Sea in *T. granulosa*. Passing below the Equator in the New World, one more species presents itself to the collector, at Brazil, and this is of the old European type. In the seas of Europe there is a small species, *T. phaseolina*, which extends as far north as Sweden; and there is a species, *T. myopsis*, which is confined to Greenland. All the *Thraciæ* hitherto spoken of have the outer surface of the shell characterized by a peculiar shagreen sculpture of scabrous granules. In the few southern species of the genus this northern generic feature ceases, and the shell partakes of the peculiarities of the locality. *T. Australica* and *Novo-Zelandica*, from the places respectively indicated by their names, present the general typical characteristics of the curious New Zealand genus *Myadora;* and in the *T. anatinoides* of Sydney we have a species partaking of the type of the beaked *Anatinæ* of the same continent.

A British species, *T. distorta*, of rock-dwelling habits, and having very much the appearance of a borer, has been separated as a genus by M. Fleurian de Bellevue, under the title of *Rupicola;* and the shell is really very distinct. It will be seen, on reference to the figure, that the inequality of the sides is reversed, the posterior being very much the larger side instead of being the smaller. Two more species, *T. cuneolus* and *rudis*, come into the same subdivision.

Species 1. (Mus. Cuming.)

Thracia Corbuloides. *Thr. testâ ovato-oblongâ, valdè inæquilaterali, gibbosiusculâ, tenui, inflatâ, posticè compressè biangulatâ, subquadrato-truncatâ, anticè tumido-rotundatâ, valvis subrugosis, irregularibus; undique minutè scabrosâ, albidâ.*

The Corbula-like Thracia. Shell ovately oblong, very inequilateral, rather gibbous, thin, inflated, posteriorly compressly two-angled, and rather squarely truncated, anteriorly tumidly rounded, valves somewhat rough and irregular; everywhere minutely scabrous, whitish.

Deshayes, Dict. Class. d'Hist. Nat. vol. xvi. pl. vi. f. 4.

Hab. Western Mediterranean.

This species, which is found at Toulon and other parts of the south of France, is intermediate in its characters between the two large species of our own shores. It is more gibbous and shorter than *T. pubescens*, and less so than *T. convexa*.

Species 2. (Mus. Cuming.)

Thracia cuneolus. *Thr. testâ subtrigono-oblongâ, gibbosâ, posticè latiore, tumido-angulatâ, anticè attenuato-rotundatâ, concentricè irregulariter striatâ; albâ, minutè scabrosâ.*

The little-wedge Thracia. Shell somewhat triangularly oblong, gibbous, posteriorly broader and tumidly angled, anteriorly attenuately rounded, concentrically irregularly striated; white, minutely scabrous.

Hab. —— ?

The hinder portion of this species, as in *T. distorta* and *rudis*, is broader than the front. It has very much the appearance of a borer.

Species 3. (Mus. Cuming.)

Thracia siliqua. *Thr. testâ oblongo-quadratâ, gibbosiusculâ, utrinque truncatâ, latere postico longiore, obscurè angulato; albâ, minutè scabrosâ, parum striatâ.*

The pod Thracia. Shell oblong-square, rather gibbous, truncated at both ends, posterior side longer, obscurely angled; white, minutely scabrous, but little striated.

Hab. —— ?

Readily distinguished from other species of the genus by its oblong-square pod shape.

Species 4. (Mus. Cuming.)

Thracia Conradi. *Thr. testâ globoso-ovatâ, inflatâ, subtrigonâ, posticè contractâ, attenuato-angulatâ, anticè tumido-rotundatâ, valvis concentricè rugosis; ferrugineo-albâ.*

Conrad's Thracia. Shell globosely ovate, inflated, somewhat triangular, posteriorly contracted, attenuately angled, anteriorly tumidly rounded, valves concentrically rugose; rusty-white.

Thracia declivis, Conrad, Amer. Marine Conch. p. 44. pl. ix. f. 2.

Thracia Conradi, Courthouy.

Hab. Bay of Massachussetts, U. S. (in deep water).

This fine species, the largest of the genus, is distinguished by a broad subglobose form, flexuously attenuately contracted and angled on the posterior side. When first described by Conrad, he was under an impression that it was the *Mya declivis* of British authors; but it is distinct from any of the species to which that name has been applied; and where it has been used, its application is mixed up with so much error that it must be abandoned. *Thracia Conradi* has only been rarely obtained, after a violent easterly storm, or on the breaking up of the ice at Chelsea Beach.

Species 5. (Fig. *a*, *b*, Mus. Cuming.)

Thracia Myopsis. *Thr. testâ ovatâ, solidiusculâ, concentricè rugoso-striatâ; albidâ, vix scabrosâ, nunc depressâ, nunc gibbosiusculâ, posticè vix angulatâ.*

The little Mya Thracia. Shell ovate, rather solid, concentrically roughly striated; whitish, scarcely scabrous, sometimes depressed, sometimes rather gibbous, posteriorly slightly angled.

Möller, MS. in Mus. Cuming.

Hab. Greenland.

With little of the general typical aspect of *Thracia*, this species has the true dentition of the genus. It is rather solid and depressed, and is very roughly and irregularly striated, with only a faint development of the posterior angle.

Species 6. (Mus. Cuming.)

Thracia convexa. *Thr. testâ oblongo-ovatâ, valdè gibbosâ, posticè gradatim attenuatâ et tenuè angulatâ, anticè subampliter rotundatâ, valvis irregulariter concentricè striatis; lævigatâ, ferrugineo-albâ.*

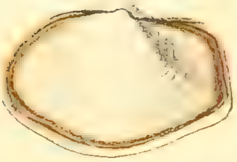
The convex Thracia. Shell oblong-ovate, very gibbous, posteriorly gradually attenuated and faintly angled, anteriorly rather amply rounded, valves irregularly striated; smooth, rusty-white.

Mya convexa, Wood, General Conch. p. 92. pl. xviii. f. 1.
Ligula distorta, Montagu.
Anatina convexa, Turton.
Amphidesma convexum, Fleming.
Thracia convexa, Courthouy.

Hab. South-west coast of England.

The two large species of *Thracia* inhabiting the shores of Devonshire and Cornwall, are mainly distinguished from each other by their contrast of bulk. While *T. pubescens* is an oblong depressed shell, *T. convexa* is a short, broadly inflated species, the most gibbous of the genus, and it is more contractedly attenuated behind.

Thracia Pl. II.



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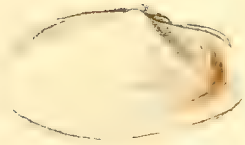

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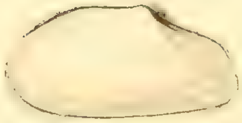

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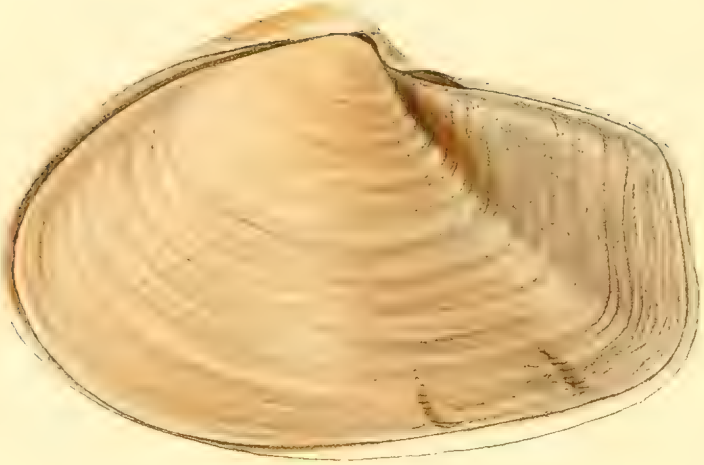

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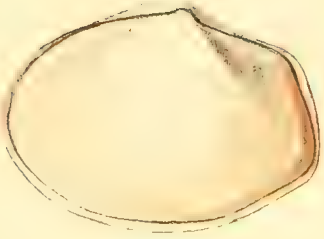

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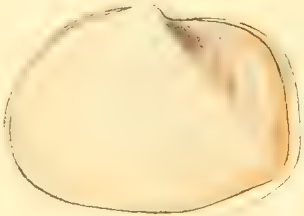

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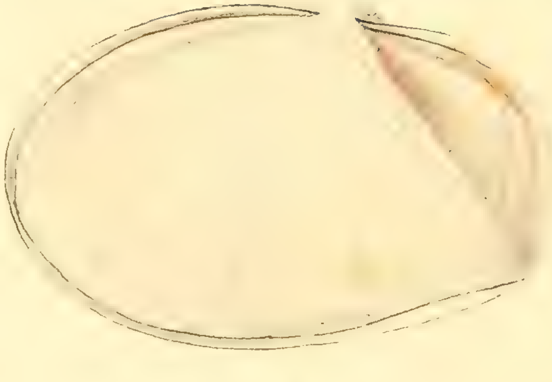

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Sowerby del et lith

Vincent Brooks Imp

THRACIA.

Plate II.

Species 7. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Thracia plicata. *Thr. testâ ovatâ vel oblongo-ovatâ, subpapyraceâ, valvâ sinistrâ depressâ, posticè concavo-angulatâ et declivi-truncatâ, dextrâ gibbosiusculâ, ambabus granoso-scabrosis et concentricè elevato-striatis, obliquè corrugato-plicatis, plicis anticè fortioribus, posticè gradatim evanidis; albâ, ad marginem ferrugineâ.*

The plaited Thracia. Shell ovate or oblong-ovate, somewhat papyraceous, left valve depressed, posteriorly concavely angled and slopingly truncated, right valve rather gibbous, both granosely scabrous and concentrically elevately striated, obliquely wrinkle-plaited, plaits stronger anteriorly, posteriorly gradually vanishing; white, rusty at the margin.

Deshayes, Encyclop. Méthodique, vers, vol. iii. p. 1039.

Hab. West Indies (St. Thomas's Island) and California.

Of this species, which M. Deshayes describes as living probably in the seas of Senegal. Mr. Cuming possesses specimens from California, and the Island of St. Thomas, West Indies; and they vary in form from oblong to ovate, after the manner of the specimens *a*, *b*, *c*, selected for illustration. They are of light, papyraceous, milk-white substance, wrinkle-plaited across the front and central parts of the shell, according to a type of structure which has its highest development in *T. magnifica* from the same geographical province.

Species 8. (Mus. Cuming.)

Thracia phaseolina. *Thr. testâ oblongâ, subconvexâ, tenui, fragili, posticè concavo-angulatâ, subtruncatâ, anticè attenuato-ovali; concentricè tenuistriatâ; albâ, subnitente, vix scabrosâ.*

The little boat Thracia. Shell oblong, slightly convex, thin, fragile, posteriorly concavely angled, subtruncated, anteriorly attenuately oval; concentrically finely striated; white, comparatively shining, scarcely scabrous.

Amphidesma phaseolina, Lamarck, Anim. sans vert. vol. vi. p. 129.
Mya declivis, Turton.
Anatina declivis, Turton.
Thracia phaseolina, Kiener.
Odoncincta papyracea, Da Costa.

Hab. British seas and West Mediterranean.

T. phaseolina has a much wider and more northerly range than either of the larger *Thraciæ* of Britain. It inhabits the European seas from Cornwall to the Shetland Islands and from Norway to the Levant.

Species 9. (Mus. Cuming.)

Thracia villosiuscula. *Thr. oblongo-ovatâ, subconvexâ, tenui, fragili, posticè concavo-angulatâ, declivi-truncatâ, anticè subirregulariter rotundatâ; concentricè rudè striatâ, albidâ, minutè scabrosâ.*

The downy Thracia. Shell oblong-ovate, rather convex, thin, fragile, posteriorly concavely angled, slopingly truncated, anteriorly rather irregularly rounded; concentrically rudely striated, whitish, minutely scabrous.

M'Gillivray, Edin. Phil. Journ. p. 370. pl. 11. f. 6.
Thracia ovata, Brown.

Hab. South and North Britain.

Chiefly distinguished from the preceding species by its more opaque scabrous texture, ruder striation, and more uncouth broader growth. The downy epidermis is common to many species of the genus.

Species 10. (Mus. Cuming.)

Thracia pubescens. *Thr. testâ oblongo-ovatâ, subæquilaterali, valvâ sinistrâ depressâ, posticè latè angulatâ, ambabus truncatis, anticè declivi-rotundatis; sordidè albâ, granoso-scabrosâ, epidermide indutâ.*

The pubescent Thracia. Shell oblong-ovate, nearly equilateral, left valve depressed, posteriorly broadly angled; both valves truncated, anteriorly slopingly rounded; dead-white, granosely scabrous, covered with an epidermis.

Mya pubescens, Pulteney in Hutchin's Dorset, p. 27.
Mya declivis, Donovan.
Anatina Myalis, Lamarck.
Anatina pubescens, Turton.
Thracia pubescens, Leach.
Thracia declivis, Brown.

Hab. South-west coast of England.

Messrs. Forbes and Hanley remark of *Thracia pubescens*, "It is by no means improbable that Pennant's *Mya declivis* was identical with this species; at least, Montagu

November, 1859.

declares that the Portland specimen, the traditional type of that shell, was similar to it." But not having faith in Montagu's judgment, they expunge Pennant's name and adopt the next in priority, of the correct application of which no doubt exists, *pubescens* of Pulteney. There appears to me strong reason for believing that Pennant's *Mya declivis* was not a *Thracia* at all. Speaking of its habitat, he says, "It is common among the Hebrides, by the gentry of which islands its animal is eaten." With *Mya arenaria*, of which Pennant's shell was probably a small specimen, this is the case, but *Thracia pubescens* is only found at the extreme south-west of England, on the shores of Devon and Cornwall.

Species 11. (Mus. Cuming.)

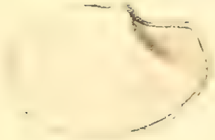
THRACIA MAGNIFICA. *Thr. testâ oblongo-ovatâ, tenuiculâ, parum convexâ, posticè flexuoso-angulatâ, anticè rotundatâ, subpellucido-albâ, validè granoso-scabrosâ et concentricè elevato-striatâ, obliquè ampliter corrugato-plicatâ, plicis margine antico obliquè descendentibus, in valvâ dextrâ fortioribus.*

THE MAGNIFICENT THRACIA. Shell oblong-ovate, rather thin, but little convex, posteriorly flexuously angled, anteriorly rounded, semitransparent-white, strongly granosely scabrous and concentrically excavately striated, obliquely largely wrinkle-plaited, plaits obliquely descending from the anterior margin, stronger in the right valve.

JONAS, Mollusken Beiträge.

Hab. Honduras; Dyson.

The interesting shell figured in the accompanying Plate was procured by Mr. Cuming from the late Dr. Jonas, of Hamburg, who described and figured it with the above name in his 'Mollusken Beiträge.' Nothing was known of its habitat, but it happened shortly afterwards that an odd valve of the same species came into Mr. Cuming's possession among some shells collected by Mr. Dyson at Honduras; and, though resembling in typical character *T. granulosa* of the China Sea, it was found to have both a typical and local relationship with *T. plicata* of California and the West Indies. There is a broken valve of the species in the British Museum, labelled, on what authority I know not, *Thracia semirugosa.*



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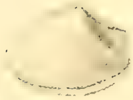

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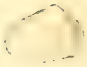

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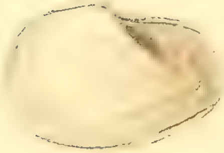

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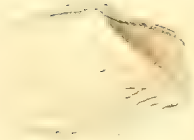

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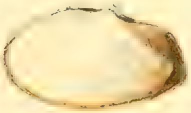

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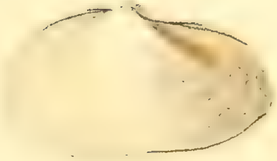

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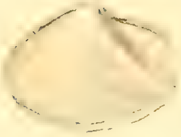

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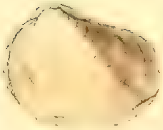

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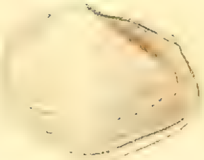

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Sowerby del et lith.

Vincent Brooks Imp

THRACIA.

Plate III.

Species 12. (Mus. Cuming.)

Thracia Anatinoides. *Thr. testâ obliquè ovatâ, tenui, pellucidâ, posticè abbreviato-angulatâ, concavo-rostratâ, hiante, anticè latè rotundatâ, ampliter convexâ, tumidâ, subhiante; subvitreo-albâ.*

The Anatina-like Thracia. Shell obliquely ovate, thin, transparent, posteriorly shortly angled, concavely beaked, gaping, anteriorly broadly rounded, largely convex, swollen, a little gaping; somewhat glassy-white.

Hab. Sydney, Australia.

This, it will be seen, is of a totally different type from the European *Thraciæ*, and presents a typical relationship with the beaked *Anatinæ* of the same locality.

Species 13. (Mus. Cuming.)

Thracia Australica. *Thr. testâ subtrigono-ovatâ, solidiusculâ, posticè abbreviato-angulatâ, valvâ sinistrâ planâ, concentricè, præsertim versus umbones, plicato-striatâ, umbonibus et angulo postico subacutis; opaco-albâ.*

The Australian Thracia. Shell somewhat triangularly ovate, rather solid, posteriorly shortly angled, left valve flat, concentrically plicately striated, especially towards the umboes, umboes and posterior angle rather sharp; opaque-white.

Hab. Moreton Bay, Australia.

This little species partakes of the peculiar Australian type of bivalve shell represented by *Myadora*. It is of rather solid substance, more sharply angled towards the umboes than any of the European forms of *Thracia*, and has no indication of the characteristic scabrous graining.

Species 14. (Mus. Cuming.)

Thracia fabula. *Thr. testâ ovato-cuneatâ, subcompressâ, solidiusculâ, latere postico obtusè declivi, antico subattenuato-rotundato; opaco-albâ, lævigatâ.*

The little bean Thracia. Shell ovately wedge-shaped, somewhat compressed, rather solid, posterior side obtusely sloping, anterior rather attenuately rounded; opaque-white, smooth.

Hab. —— ?

A small, smooth, wedge-shaped shell, with the true characteristic dentition of a *Thracia*.

Species 15. (Mus. Cuming.)

Thracia similis. *Thr. testâ ovatâ vel oblongâ, gibbosiusculâ, latere postico parum angulato, interdum subattenuato, latere antico latiore; sordidè albâ, irregulariter concentricè striatâ.*

The similar Thracia. Shell ovate or oblong, rather gibbous, posterior side but little angled, sometimes rather attenuated, anterior side broader; dead-white, irregularly concentrically striated.

Courthouy, Boston Journ. Nat. Hist. vol. ii. p. 150. pl. 4. f. 3.

Hab. Brazil.

The only species known from South America. It partakes of the northern type, but varies in being sometimes oblong, as in Courthouy's figure, and sometimes inclined to beaked-ovate, as in our own.

Species 16. (Mus. Cuming.)

Thracia squamosa. *Thr. oblongo-ovatâ, posticè declivi-angulatâ et truncatâ, anticè declivi-rotundatâ, gibbosiusculâ; albidâ, rudè concentricè striatâ, granoso-scabrosâ.*

The scaly Thracia. Shell oblong-ovate, posteriorly slopingly angled and truncated, anteriorly slopingly rounded, rather gibbous; whitish, rudely concentrically striated, granosely scabrous.

Carpenter, Pro. Zool. Soc. 1855, p. 229.

Hab. Mazatlan, California; C. Shipley.

The Californian representative of the European *T. villosiuscula* and *phaseolina*.

Species 17. (Mus. Cuming.)

Thracia concinna. *Thr. testâ ovatâ, convexâ, posticè subangustè angulatâ, parum truncatâ, anticè subattenuato-rotundatâ; lævigatâ, lacteâ.*

The neat Thracia. Shell ovate, convex, posteriorly rather narrowly angled, but little truncated, anteriorly somewhat attenuately rounded; smooth, milk-white.

Gould, MS. in Mus. Cuming.

Hab. San Nicolas, Island of Zebu, Philippines; Cuming.

A neat, smooth, milk-white species, with no indication of the scabrous graining common in the northern species of the genus.

November, 1859.

Species 18. (Mus. Cuming.)

Thracia oblonga. *Thr. testâ oblongâ, subdepressâ, lateribus rotundatis, postico parum angulato; sordidè albâ, granoso-scabrosâ, concentricè rudè striatâ.*

The oblong Thracia. Shell oblong, rather depressed, sides rounded, the posterior but little angled; dead-white, granosely scabrous, concentrically rudely striated.

Hab. Red Sea.

Of simple form and character, but an interesting addition to the genus on account of its habitat.

Species 19. (Mus. Cuming.)

Thracia Novo-Zelandica. *Thr. testâ subtrigono-ovatâ, solidiusculâ, posticè sublatè angulatâ, valvâ sinistrâ planâ, concentricè rudè plicato-striatâ, præsertim versus umbones, umbonibus subacutis, subrostratis; albidâ, lævigatâ.*

The New Zealand Thracia. Shell somewhat triangularly ovate, rather solid, posteriorly rather broadly angled, left valve flat, concentrically rudely plicately striated, especially towards the umboes, umboes rather sharp, a little beaked; whitish, smooth.

Hab. New Zealand.

Of the same *Myadora* form as *T. Australica*, and possibly a variety of that species, but the specimens, so far as they have been collected, appear however to be distinguished as in our figures.

Species 20. (Mus. Cuming.)

Thracia distorta. *Thr. testâ obliquè subtrigono-ovatâ, cuneiformi, gibbosâ, rudè plicato-striatâ, latere postico multo longiore, flexuoso, vix angulato, antico abbreviato, rotundato, umbonibus subamplis, tumidis; sordidè albâ.*

The distorted Thracia. Shell obliquely somewhat triangularly ovate, wedge-shaped, gibbous, rudely plicately striated, posterior side much the longer, flexuous, scarcely angled, anterior side shortly rounded, umboes rather large, swollen; dead-white.

Mya distorta, Montagu, Test. Brit. p. 42. pl. 1. f. 1.
Anatina distorta, Turton.
Thracia distorta, Brown.
Anatina rupicola, Lamarck.
An eadem var.? *Anatina truncata*, Turton.
Thracia truncata, Brown.
Thracia brevis, Deshayes.
Rupicola distorta, De Bellevue.
Rupicola concentrica, De Bellevue.

Hab. European seas, from Sweden to the Mediterranean, and from the Orkneys to the Channel Islands (in ten to thirty fathoms water, on a stony bottom, and sometimes imbedded in limestone); Forbes and Hanley.

Like most rock-inhabiting species, this is of very irregular growth, and owing to its rude varieties and wide geographical distribution, it has received several names. As in *T. cuneolus* and in the following species from Malacca, the posterior side is the longer, instead of being, as in all other species of the genus, the shorter; and it cannot be doubted that M. Fleurian de Bellevue's subdivision of the group, as shown by our synonyms, is a very natural one.

Species 21. (Mus. Cuming.)

Thracia rudis. *Thr. testâ obliquè ovatâ, rudè gibbosâ, irregulariter plicato-striatâ, umbonibus amplis, tumidis, latere postico grandiore, peranguste superficialiter angulatâ; sordidè albâ.*

The rude Thracia. Shell obliquely ovate, rudely gibbous, irregularly plicately striated, umboes large, swollen, posterior side the larger, very narrowly superficially angled; dead-white.

Hab. Malacca.

Obviously a rock-dwelling species belonging to subgenus *Rupicola*, in which the posterior side of the shell is the larger.

Species 22. (Mus.?)

Thracia granulosa. *Thr. testâ ovato-oblongâ, subæquilaterali, albâ, undique minutè granulatâ, transversim obliquè plicatâ, plicis grandibus, undulatis, ad latus posticum valvæ superioris obsoletis, latere postico subtruncato.*

The granuled Thracia. Shell ovately oblong, nearly equilateral, white, everywhere minutely granulated, transversely obliquely plicated, plaits large, waved, on the posterior side of the upper valve obsolete, posterior side subtruncated.

Adams and Reeve, Moll. Voy. Samarang, p. 82. pl. 23. f. 16.

Hab. China Sea.

This fine species, described about ten years ago in the 'Zoology of the Voyage of the Samarang,' was dredged in the China Sea by Captain Sir E. Belcher, and I am not aware in what collection the specimen is deposited. It belongs to the very characteristic wave-wrinkled type represented in the West Indies, California, and Honduras by *T. plicata* and *magnifica*, and would appear to be about intermediate between them. It has the form of the variety of *T. plicata*, Fig. 7 *c*, with the deeply sculptured folds of *T. magnifica*.

THRACIA.

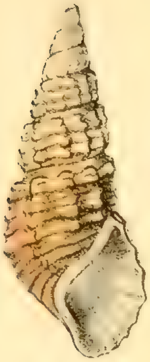
	Plate	Species.
Anatinoides, *Reeve*	III.	12
Australica, *Reeve*............	III.	13
brevis, Deshayes	III.	20
concinna, *Gould*	III.	17
convexa (*Mya*), Wood........	I.	6
Conradi, *Courthouy*..........	I.	4
Corbuloides, *Deshayes*........	I.	1
cuneolus, *Reeve*	I.	2
declivis, Brown	II.	20
declivis, Conrad	I.	4
distorta (*Mya*), Montagu ..	III.	20
fabula, *Reeve*	III.	14
granulosa, *Adams and Reeve* ..	III.	22
magnifica, *Jonas*	II.	11
Myopsis, *Möller*	I.	5
Novo-Zelandica, *Reeve*........	III.	19
oblonga, *Reeve*..............	III.	18
ovata, Brown	II.	9
phaseolina (*Amph.*), Lam.	II.	8
plicata, *Deshayes*............	II.	7
pubescens (*Mya*), Pulteney	II.	10
rudis, *Reeve*.. .. .	III.	21
siliqua, *Reeve*	I.	3
similis, *Courthouy*	III.	15
squamosa, *Carpenter*	III.	16
truncata, Brown	III.	20
villosiuscula, *Macgill*........	II.	6

MONOGRAPH

OF THE GENUS

MELANIA.

> "Give me the heart that can enjoyment find
> In brooks and streams."
>
> *Burbidge.*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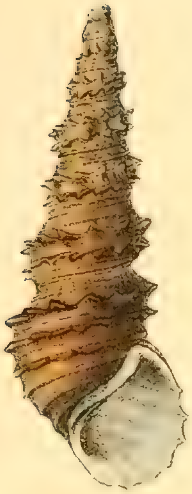
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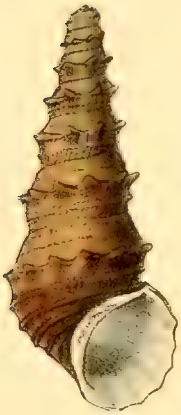
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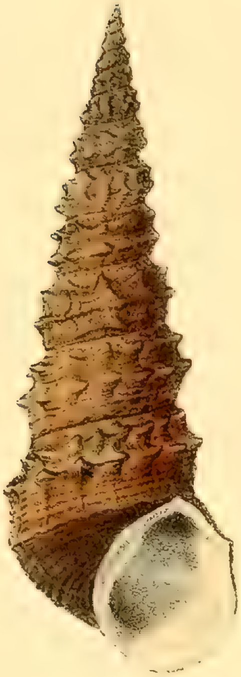
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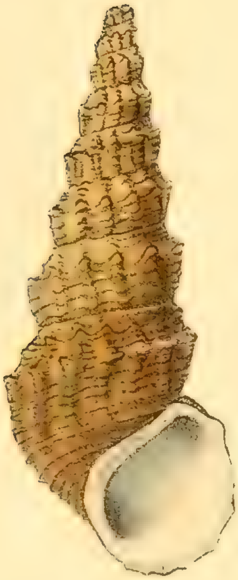
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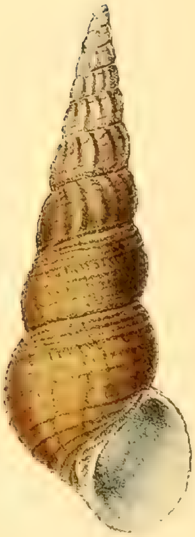
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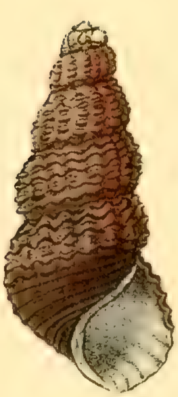
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Sowerby, del et lith

Vincent Brooks, Imp

MELANIA.

Plate I.

Genus MELANIA, *Lamarck.*

Testa plus minusve turrita, plerumque plicata vel carinata, olivacea, sæpe fusco-virente fasciata, spirâ nunc brevi, nunc elongatâ, versus apicem plerumque erosâ; columellâ lævi, arcuatâ; aperturâ ovatâ, interdum integrâ, interdum ad basin sinuato-effusâ.

Shell more or less turreted, generally plicated or keeled, olive, often banded with fuscous green, spire sometimes short, sometimes elongated, generally eroded towards the apex, columella smooth, arched; aperture ovate, sometimes entire, sometimes sinuously effused at the base.

The shells of the great family of *Melaniadæ*, inhabiting rapids and tidal rivers within an area of about forty degrees on either side of the Equator, in both hemispheres, have been little collected and little studied in England. Excepting four small species thinly distributed in the rivers of Dalmatia, Spain, and Portugal, they are unknown in Europe, and I have had to work out the monograph with comparatively limited series of specimens, and, in some instances, with rather doubtful or misnamed types. Mr. Cuming's specimens, greatly enriched by those collected by him in the Philippine Islands, had, however, been sent for examination and description to Mr. Lea, of Philadelphia; and Mr. Anthony, of Cincinnati, most kindly forwarded to me his types of the principal species of the Southern United States. The types of the species collected by Mr. Hinds, in the Feejee and adjacent islands, together with several collected in India, Guiana, and Pernambuco, have been placed at my service; and I have to thank M. Morelet, of Dijon, for the loan of the very interesting specimens collected by him in Central America, as well as Dr. von dem Busch, of Bremen, for the loan of an extensive series, including several species described by Continental authors, which would not have been otherwise known to me.

After laying aside the *Melaniadæ* already published in the monographs of the genera *Io*, *Hemisinus*, *Anculotus*, *Melatoma*, *Pirena*, *Melanopsis*, and *Paludomus*, about 470 species remain to the genus *Melania*. More have been described, but these are all of which I have succeeded in procuring the shell. Advantage might have been taken of the labours of systematists to have distributed them into further genera—*Tiara*, *Pachychilus*, *Ceriphasia*, *Clea*, *Melanella*—but more materials are needed for their elucidation than we at present possess. The largest species of *Melania* are those collected by Mr. Cuming in the rivers of the Philippine Islands, chiefly the island of Luzon, and by M. Morelet, in Central America; the most abundant, both in individuals and in species, but of uniformly smaller size, are those of the great rivers of the Southern United States. A few of large size, including the very characteristic *M. tuberculosa*, are natives of West Africa; and the rivers Branca, Essequibo, and Marañon, in Guiana and North Brazil, contribute a few fine species.

Out of the 470 species described in the present monograph, we have authority for the habitats of 410, as follows:—

EASTERN HEMISPHERE.		
Southern Europe	4	
Egypt and Abyssinia	3	
West Africa and Cape de Verd Islands	24	
South Africa	1	
Mauritius and Madagascar	4	
Japan	1	
China	4	
Ceylon	5	
Java, and adjacent islands	25	
Philippine Islands	38	
Borneo and Celebes	10	
Feejee and adjacent islands, including New Caledonia	20	
Sandwich and adjacent islands	5	
North Australia	1	
New Zealand	1	
		155
WESTERN HEMISPHERE.		
North Brazil, Guiana, Pernambuco	10	
Oregon, California, Cuba	10	
Central America	25	
Southern United States	210	
		255
		410

The animal of the *Melaniadæ* is a pectinate-gilled mollusk, breathing only in water, with a short slight disk and a truncated subconical proboscis-shaped head, with the tentacles distant and subulate, having the eyes on the outer side sometimes at the base, sometimes more advanced; the mantle is fringed; operculum horny.

June, 1861.

Species 1. (Mus. Cuming.)

MELANIA HENRIETTÆ. *Mel. testâ ovato-turritâ, solidiusculâ, luteo-olivaceâ, anfractibus octo, plano-convexis, ad suturas impressis, costis subdistantibus undique regulariter clathratis; aperturâ oblongo-ovatâ, columellâ arcuatâ, ad basin expanso-effusâ.*

HENRIETTA'S MELANIA. Shell ovately turreted, rather solid, yellowish-olive, whorls eight, flatly convex, impressed at the sutures, regularly latticed throughout, with rather distant ribs; aperture oblong-ovate, columella arched, expandedly effused at the base.

GRAY, in Griffith's Cuvier's Animal Kingdom, pl. 13. f. 2.
Melania reticulata, Lea.

Hab. China.

A shell of solid growth, latticed throughout, with rather distant ribs, in which the columella and aperture are more expandedly effused than is usual in this type of the genus.

Species 2. (Fig. *a*, *b*, *c*, *d*, *e*, Mus. Cuming.)

MELANIA ASPERATA. *Mel. testâ pyramidali-turritâ, elongatâ, fulvo-olivaceâ, anfractibus duodecim aut pluribus, convexis, longitudinaliter plicato-costatis, transversim liratis, liris super costas variè muricato-tuberculatis; aperturâ suborbiculari, labro utrinque sinuato-reflexo, columellâ arcuatâ.*

THE ROUGH MELANIA. Shell pyramidally turreted, elongated, fulvous-olive, whorls twelve or more, convex, longitudinally plicately ribbed, transversely ridged, ridges variously prickly tubercled upon the ribs; aperture nearly orbicular, lip sinuously reflected on either side, columella arched.

LAMARCK, Anim. sans vert. vol. viii. p. 429.

Hab. Philippine Islands; Cuming.

The largest species of the genus, extremely variable in sculpture, but it may be remarked, as a general rule, that in the earlier whorls the longitudinal sculpture predominates, whilst in the latter whorls the transverse sculpture is the most conspicuous.

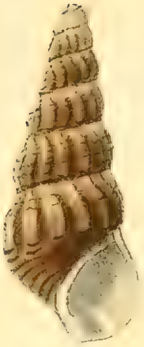
Species 3. (Mus. Cuming.)

MELANIA PERNAMBUCENSIS. *Mel. testâ subpyramidali-turritâ, solidiusculâ, olivaceo-brunneâ, anfractibus declivi-tumidis, longitudinaliter usque ad peripheriam arcuatim plicatis, transversim crebricostatis, costis super plicas elevatiusculis, interstitiis crispato-granulatis, suturis excavato-impressis; aperturâ ovatâ, columellâ arcuatâ.*

THE PERNAMBUCO MELANIA. Shell somewhat pyramidally turreted, rather solid, olive-brown, whorls slopingly tumid, longitudinally arcuately plicated as far as the periphery, transversely closely ribbed, ribs a little raised on the folds, interstices crispately granuled, sutures excavately impressed; aperture ovate, columella arched.

Hab. Pernambuco.

A very characteristic richly-coloured shell, densely sculptured with narrow transverse ribs, passing over concentric folds, which reach only to the periphery in each whorl.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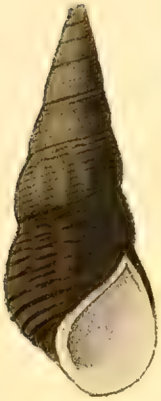
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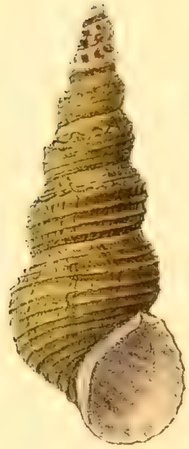
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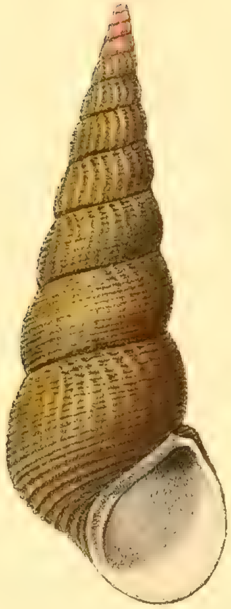
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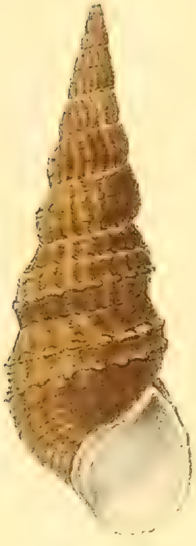
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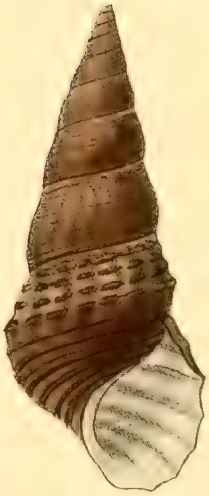
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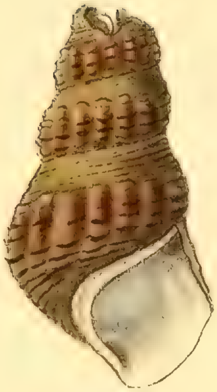
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Vincent Brooks, Imp.

MELANIA.

Plate II.

Species 4. (Fig. *a*, *b*, Mus. Cuming.)

Melania Herculea. *Mel. testâ turritâ, virescente-olivaceâ, anfractibus novem ad decem, supernè excavatis, deinde concentricè plicato-costatis, costis confertis, tuberculatis, anfractu ultimo subangulato, infra spiraliter lirato; aperturâ ovatâ, ad basin productâ.*

The Herculean Melania. Shell turreted, greenish-olive, whorls nine to ten, excavately sloping round the upper part, then concentrically plicately ribbed, ribs close-set, tubercled, last whorl slightly angled, spirally ridged below; aperture ovate, produced at the base.

Gould, MS. in Mus. Cuming.

Hab. Ceylon; Thwaites.

Of this very characteristic species I have not met with any specimen in such perfect condition as one figured some years ago, without a name, in Sowerby's 'Genera,' in a plate which appeared more recently in my 'Conchologia Systematica,' pl. 194. f. 2, with the name, erroneously given, of *M. variabilis*, Benson, and quoted in error by M. Souleyet in Zool. Voy. de la Bonite.

Species 5. (Mus. V. d. Busch.)

Melania lacustris. *Mel. subulato-turritâ, pervariabili, luteâ, aut rufo-fuscescente, aut nigrâ, anfractibus septem ad octo, spiraliter liratis, ultimo longitudinaliter plicato; aperturâ ovatâ, fauce cærulescente-albâ.*

The lacustrine Melania. Shell subulately turreted, very variable, yellow, or reddish-brown, or black, whorls seven to eight, spirally ridged, the last longitudinally plicated; aperture ovate, interior bluish-white.

Morelet, Test. Nov. Amer. Cent. part 1. p. 25.

Hab. Vicinity of Yzabel, Guatemala.

Of more solid growth, and less effused at the base than *M. glaphyra*, but I doubt if they are distinct species.

Species 6. (Mus. Cuming.)

Melania inquinata. *Mel. testâ turritâ, olivaceâ, anfractibus octo ad novem, rotundatis, spiraliter liratis, liris irregularibus, subacutis, hic illic obsoletè nodosis; aperturâ rotundato-ovatâ, parviusculâ.*

The dyed Melania. Shell turreted, olive, whorls eight to nine, rounded, spirally ridged, ridges irregular, rather sharp, here and there obsoletely noduled; aperture rotundately ovate, rather small.

Defrance, Dict. Sci. Nat. p. 469. f. 291.

Melania Reirvardii, De Haan.

Hab. Island of Luzon, Philippines; Cuming.

Belonging to the Philippine type represented by *M. asperata*, into which this and the following species may clearly be traced by a sufficient collocation of individual specimens.

Species 7. (Fig. *a*, *b*, Mus. Cuming.)

Melania dactylus. *Mel. testâ subulato-turritâ, luteo-fuscâ aut ferrugineâ, anfractibus decem ad duodecim, convexis, spiraliter densè elevato-striatis, longitudinaliter confertim plicato-liratis, liris versus aperturam obsoletis, anfractibus ultimis duobus vel tribus interdum biseriatim tuberculatis; aperturâ rotundato-ovatâ.*

The finger Melania. Shell subulately turreted, yellowish-brown or rust-colour, whorls ten to twelve, convex, spirally densely elevately striated, longitudinally closely plicately ridged, ridges obsolete towards the aperture, last two or three whorls sometimes encircled with two rows of tubercles; aperture rotundately ovate.

Lea, Pro. Zool. Soc. 1850, p. 191.

Hab. Islands Guimaras, Mindanao, Luzon, and Leyte, Philippines (in small streams); Cuming.

M. dactylus is of the same Protean character as *M. asperata* from the same locality, and is, perhaps, a variety of that species. It may, however, be observed that the longitudinal sculpture, be it ribs or plaits, is uniformly more crowded in the earlier whorls.

Species 8. (Mus. Cuming.)

Melania glaphyra. *Mel. testâ pyramidali, olivaceo-ferrugineâ, anfractibus octo ad novem, supernè planulato-declivibus, liris nigris nodulatis interruptis cingulatis, anfractûs ultimi parte inferiori liris integris lævibus cingulatâ; aperturâ oblongo-ovatâ, ad basin subproductâ.*

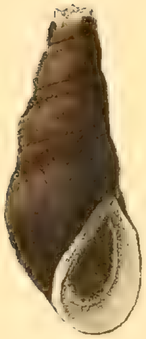
The carved Melania. Shell pyramidal, olive-rust, flatly sloping round the upper part, encircled with black interrupted noduled ridges, lower part of the last whorl encircled with entire smooth ridges; aperture oblong-ovate, slightly produced at the base.

Morelet, Test. Nov. Amer. Cent. part 1. p. 24.

Hab. River Usumasinta, Central America; Morelet.

This species has more of a pyramidal than a subulate form, with the base somewhat produced. The whorls are encircled with characteristic black ridges on an olive-rust ground, which upon the upper part of the last whorl are broken up into beads, raised upon obscure concentric folds. Towards the apex the sculpture is obsolete.

November, 1859.



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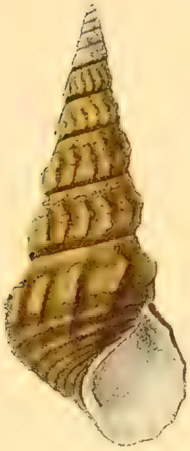

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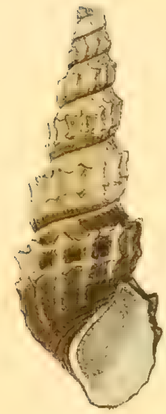

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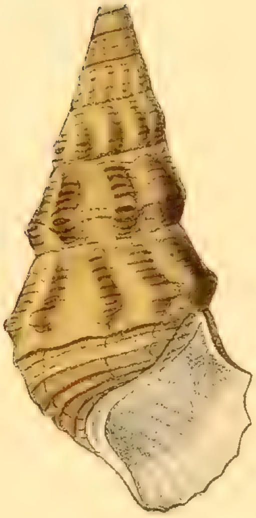

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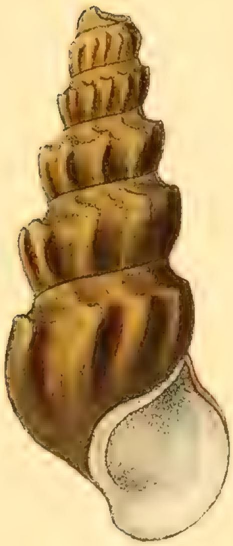

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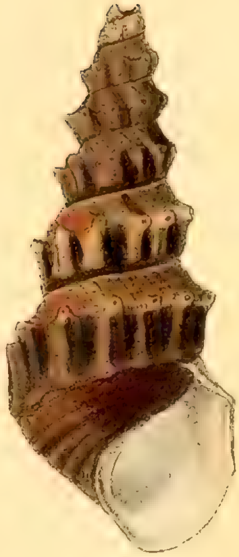

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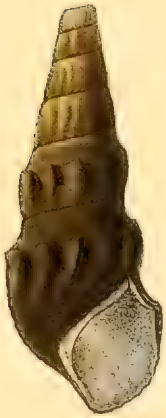

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Vincent Brooks, Imp

MELANIA.

Plate III.

Species 9. (Mus. Cuming.)

Melania ferrea. *Mel. testâ angustâ, fusco-nigrâ, ad suturas fuscescente, anfractibus convexis, supernè subexcavatis, undique tenuè decussatim striatis, suturis submarginatis; aperturâ oblongo-ovatâ.*

The iron Melania. Shell narrow, fuscous-black, brownish at the sutures, whorls convex, moderately excavated round the upper part, finely decussately striated throughout, sutures slightly margined; aperture oblong-ovate.

Hab. Borneo; Grand Bassam, West Africa.

A smooth, decussately striated, fuscous shell, characteristically blending into a lighter brown at the sutural margin of the whorls, below which there is a slight excavation. Mr. Cuming's specimens from the two localities above named are unquestionably the same species.

Species 10. (Fig. *a*, Mus. Cuming; *b*, Mus. V. d. Busch.)

Melania corrugata. *Mel. testâ acutè turritâ, virescente-olivaceâ, fasciâ castaneâ supra suturas, anfractibus novem ad decem, supernè excavatis, deinde acutè plicato-nodosis et concentricè corrugatis, anfractûs ultimi parte inferiori spiraliter costatâ; aperturâ ovatâ, ad basin productâ.*

The wrinkled Melania. Shell sharply turreted, greenish-olive, with a chestnut band above the sutures, whorls nine to ten, excavated round the upper part, then sharply plicately noduled and concentrically wrinkled, lower part of last whorl spirally ridged; aperture ovate, produced at the base.

Lamarck, Anim. sans vert. vol. viii. p. 430.
Melania varicosa, Troschel.

Hab. India, Java.

It is not often that more importance can be attached to colour than to sculpture, but in this species there is constantly an olive-chestnut band above the suture, whilst the ribs and tubercles are much more prominently and thickly developed in some specimens than in others, and sometimes they almost disappear. The shell is rather more narrowly and sharply convoluted than is usual with species of this type, and hence the ribs have a more crowded appearance towards the apex.

Species 11. (Mus. Cuming.)

Melania polygonata. *Mel. testâ conico-turritâ, solidiusculâ, luteo-olivaceâ, anfractibus octo ad novem, supernè excavato-declivibus, juxta suturas spiraliter tenuiliratis, medio angulatis et validè tuberculatis, tuberculis subdistantibus, anfractûs ultimi parte inferiori spiraliter liratâ; aperturâ oblongo-ovatâ ad basin productâ et effusâ.*

The many-angled Melania. Shell conically turreted, rather solid, yellowish-olive, whorls eight to nine, excavately slanting round the upper part, spirally finely ridged next the sutures, angled and strongly plicately tubercled in the middle, tubercles somewhat distant, lower part of the last whorl spirally ridged; aperture oblong-ovate, produced and effused at the base.

Lea, Pro. Zool. Soc. 1850, p. 195.

Hab. Copan, Central America.

A fine conically turreted species, with the whorls peculiarly sloping round the upper half to a bold prominently tubercled periphery. This pent-like sloping of the whorls gives to the shell, which is of very solid growth, a rather sharply conical form. The epidermis has a characteristic yellowish hue.

Species 12. (Mus. Cuming.)

Melania episcopalis. *Mel. testâ turritâ, solidiusculâ, luteo-olivaceâ, anfractibus convexis, supernè subexcavatis, deinde conspicuè angulato-plicatis, plicis subdistantibus peculiariter obliquè appressis, versus aperturam subobsoletis; aperturâ ovatâ, ad basin subproductâ.*

The episcopal Melania. Shell turreted, rather solid, yellowish-olive, whorls convex, slightly excavated round the upper part, then conspicuously angularly plicated, plaits rather distant, peculiarly obliquely appressed, somewhat obsolete towards the aperture; aperture ovate, slightly produced at the base.

Lea, Pro. Zool. Soc. 1850, p. 184.

Hab. Malacca (in a sluggish river); Cuming.

The shell here figured is not one of the four specimens mentioned by Mr. Lea as having been sent to him by Mr. Cuming, but one of larger and bolder growth, of which the actual habitat is not known. All the specimens are characterized by a peculiar pressing down of the ribs on one side.

November, 1859.

Species 13. (Mus. Cuming.)

Melania plicata. *Mel. testâ turritâ, olivaceo-castaneâ, anfractibus supernè declivi-angulatis, deinde longitudinaliter plicatis, plicis ad angulum muricatis, anfractûs ultimi parte inferiori remotè spiraliter liratâ; aperturâ ovatâ, ad basin subproductâ.*

The plaited Melania. Shell turreted, olive-chestnut, whorls slopingly angled round the upper part, then longitudinally plicated, plaits prickly on the angle, lower part of the last whorl distantly spirally ridged; aperture ovate, slightly produced at the base.

Lea, Trans. Amer. Phil. Soc. p. 26. pl. 23. f. 95.

Hab. New Granada; Funck.

This fine species approaches some varieties of *M. corrugata*, but the longitudinal plaits are more distant from each other in the region of the apex, in consequence of the shell being formed on a less sharply attenuated plan of convolution.

Species 14. (Mus. V. d. Busch.)

Melania infracostata. *Mel. testâ subulato-pyramidali, nigricante-olivaceâ, versus apicem fusco obscurè flammulatâ, anfractibus primis convexo-planatis, cæteris supernè gradatim excavatis, deinde plicato-costatis, costis ad angulum abruptè tuberculatis; aperturâ oblongo-ovatâ, ad basin productâ et subeffusâ.*

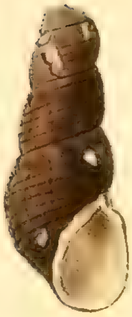
The under-ribbed Melania. Shell subulately pyramidal, blackish-olive, obscurely flamed with brown towards the apex, the first whorls convexly flattened, the rest gradually excavated round the upper part, then plicately ribbed, ribs abruptly tubercled at the angles; aperture oblong-ovate, produced and slightly effused at the base.

Mousson, Land und Süssw. Moll. Java, p. 65. pl. 10. f. 3.

Melania pontificalis, V. d. Busch.

Hab. River Tjiringhin, Java.

The shell here figured is an authentic specimen of this species, from the cabinet of Dr. Von dem Busch, and, I venture to think, more correctly illustrates the characters described by M. Mousson than his own figure, in which the ribs are not sufficiently abruptly tubercled, and the faint transverse striæ have too much the appearance of corded ridges, such as appear in the Borneo *M. circumstriata*. The first few whorls of *M. infracostata* are flat, and without sculpture, and present a very characteristic though obscure painting of brown flames.



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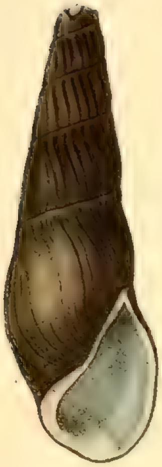

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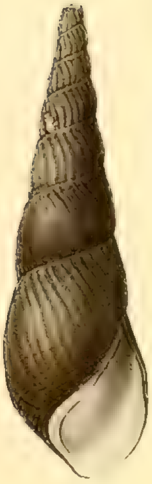

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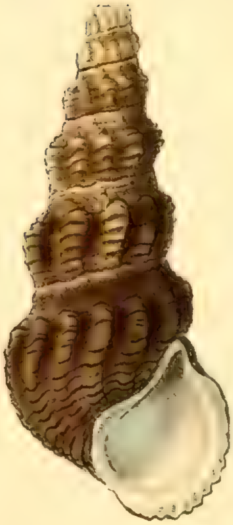

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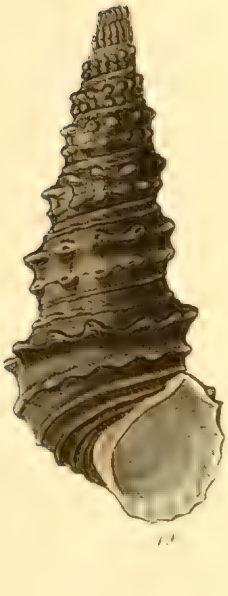

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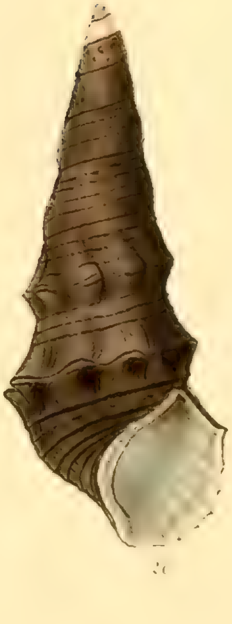

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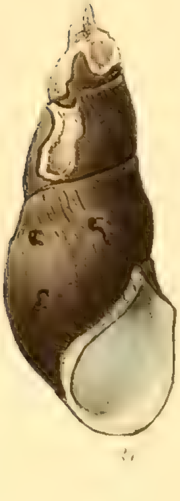


21

MELANIA.

Plate IV.

Species 15. (Mus. Cuming.)

Melania maurula. *Mel. testâ turriculatâ, nigricante-fuscâ, anfractibus convexis, supernè angustè excavatis, deinde liratis, liris subobscuris; aperturâ parvâ, rufescente.*

The little Moor Melania. Shell turriculated, blackish-brown, rather solid, whorls convex, narrowly excavated round the upper part, then ridged, ridges somewhat obscure; aperture small, tinged with red.

Hab. South-east coast of Guinea.

A rather narrowly turriculated shell, of solid growth, obscurely spirally ridged throughout, the upper margin of the whorls being lightly narrowly excavated.

Species 16. (Mus. Cuming.)

Melania blatta. *Mel. testâ subulatâ, ad basin subtruncatâ et clavatâ, solidiusculâ, lævigatâ, olivaceo-nigrâ, anfractibus novem ad decem, planatis, ad suturas marginatis, anfractibus paucis, primis longitudinaliter plicato-costatis, costis confertis, de suturis decurrentibus; aperturâ ovatâ, ad basin latiusculâ, margine columellari latè calloso-planato.*

The beetle Melania. Shell subulate, somewhat truncated and club-shaped at the base, rather solid, smooth, olive-black, whorls nine to ten, flat, margined at the sutures, the first few whorls longitudinally plicately ribbed, ribs close-set, running from the sutures; aperture ovate, rather broad at the base, columellar edge broadly callously flattened.

Lea, Pro. Zool. Soc. 1850, p. 184.

Hab. Ibu, province of Zambales, Island of Luzon, Philippines (in a rapid river, and in rivulets); Cuming.

In this species we have a distinct type of *Melania*, broadly truncate at the base, with the columellar margin of the aperture pressed inwardly to a broad flattened callosity. The whorls are not excavated round the upper part; the ribs run down from the extreme margin of the sutures.

Species 17. (Mus. V. d. Busch.)

Melania anthracina. *Mel. testâ subulatâ, subaciculari, solidiusculâ, nigrâ, ad basin subclavatâ, anfractibus plano-convexis, spiraliter inciso-striatis, densè plicato-liratis, liris de suturis decurrentibus, versus aperturam gradatim obsoletis; aperturâ ovatâ, parviusculâ, ad basin subproductâ, margine columellari calloso-planatâ.*

The coal-black Melania. Shell subulate, somewhat acicular, rather solid, black, somewhat club-shaped, whorls flatly convex, spirally incisely striated, densely plicately ridged, ridges running down from the sutures, becoming obsolete towards the aperture; aperture ovate, rather small, a little produced at the base, columellar margin callously flattened.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. i. p. 160. pl. 3. f. 3.

Hab. —— ?

Of the same type as the preceding species, but quite distinct in its specific characters. The columellar margin is less callous, and the aperture is slightly produced at the base; the longitudinal sculpture is finer, and of a different kind, whilst the whorls are encircled with engraved striæ.

M. funiculus of MM. Quoy and Gaimard, in Zool. Voy. de l'Astrolabe, might be this or the preceding species according to the figure, but the description does not agree with either.

Species 18. (Mus. Cuming.)

Melania circumstriata. *Mel. testâ turritâ, solidâ, luteo-olivaceâ aut fuscâ, anfractibus convexis, supernè paululum constrictis, striis elevatis undique spiraliter funiculatis, longitudinaliter validè costatis, costis subdistantibus, versus aperturam obsoletis; aperturâ ovatâ, ad basin vix productâ.*

The striæ-encircled Melania. Shell turreted, solid, yellowish-olive or brown, whorls convex, a little contracted at the upper part, spirally corded throughout with raised striæ, longitudinally strongly ribbed, ribs somewhat distant, obsolete towards the aperture; aperture ovate, scarcely produced at the base.

Metcalfe, Pro. Zool. Soc. 1851, p. 73.

Hab. Borneo.

Taking a rather broad view of the modifications of a species known to be of the most variable character, consequent on its wide geographical distribution, this might be pronounced to be the Borneo representative of the *M. asperata* of the Philippines.

Species 19. (Mus. V. d. Busch.)

MELANIA PULCHRA. *Mel. testâ elongato-turritâ, nigrâ, anfractibus novem ad decem, rotundatis, liris distantibus cingulatis, quarum duabus centralibus tuberculatis; aperturâ ovatâ.*

THE BEAUTIFUL MELANIA. Shell elongately turreted, black, whorls nine to ten, rounded, encircled with distant ridges, of which the two middle ones are tuberculated; aperture ovate.

VON DEM BUSCH, Philippi, Abbild. und Besch. Conch. vol. iii. p. 55. pl. 5. f. 1.

Hab. —— ?

I adopt this species with reluctance. It appears to me to be an unusually fine example of the variety of *M. asperata*, figured at Plate I. Fig. 2 *a* and 2 *b*. If *M. pulchra* be allowed to stand, these two shells may be referred to it.

Species 20. (Mus. Cuming.)

MELANIA OBELISCUS. *Mel. testâ pyramidali, solidâ, nigrâ, anfractibus octo ad novem, primis planis, lævibus, cæteris excavato-declivibus, deinde conspicuè tuberculato-angulatis, anfractûs ultimi parte inferiori spiraliter liratâ; aperturâ oblongo-ovatâ, subproductâ.*

THE OBELISK MELANIA. Shell pyramidal, solid, black, whorls eight to nine, the first flat and smooth, the rest excavately sloping, then conspicuously tuberculately angled, lower portion of the last whorl spirally ridged beneath; aperture oblong-ovate, slightly produced.

Hab. Honduras; Dyson.

A fine, solid species, partaking of the typical characteristics of *M. polygonata.* It is remarkable for the compressed tubercular prominence of the periphery of the last and penultimate whorls.

Species 21. (Mus. Cuming.)

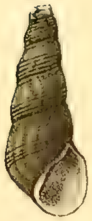
MELANIA RUSTICA. *Mel. oblongo-subulatâ, fusco-nigrâ, anfractibus subangustis, lævibus, supernè sublatè superficialiter excavatis; aperturâ parviusculâ, margine columellari calloso-planato.*

THE RUSTIC MELANIA. Shell oblong-subulate, fuscous-black, whorls rather narrow, smooth, rather broadly superficially excavated at the upper part; aperture rather small, columellar margin callously flattened.

MOUSSON, MS. Mus. Cuming.

Hab. —— ?

The whorls of this species are smooth, and rather narrowly drawn out, and the sutural excavation is proportionably broader, and superficial.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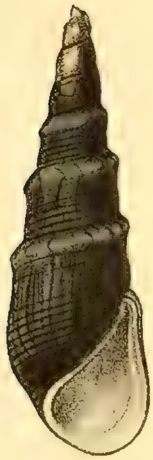
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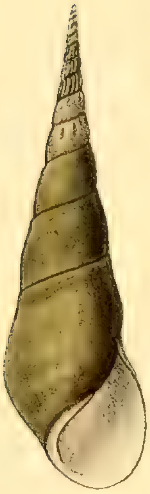
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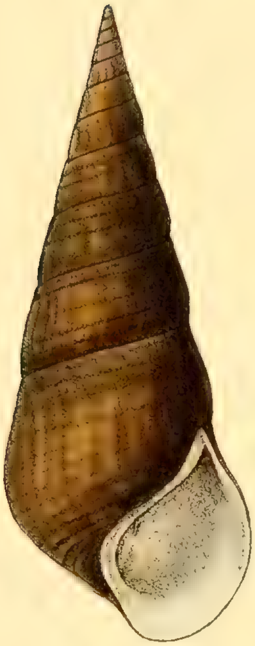
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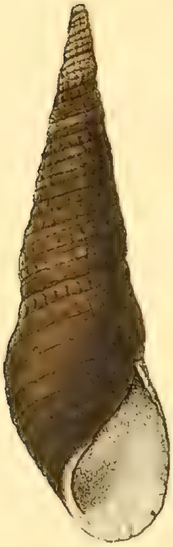
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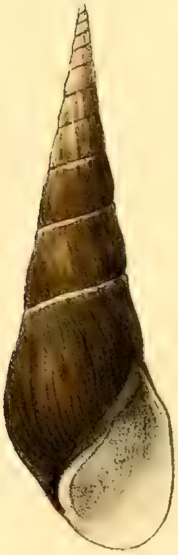
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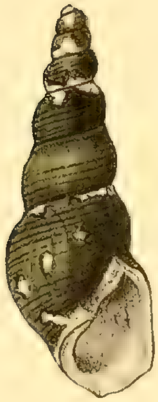
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MELANIA.

Plate V.

Species 22. (Fig. *a*, *b*, Mus. Cuming. Fig. *b*, Mus. V. d. Busch.)

Melania coarctata. *Mel. testâ turriculatâ, ad basin subclavatâ, intensè olivaceâ, anfractibus octo ad novem, convexis, supernè subexcavatis, striis incisis spiraliter cingulatis, striis superioribus in anfractibus duobus ultimis obsoletis, longitudinaliter superficialiter plicato-corrugatis; aperturâ parvâ, rotundato-ovatâ.*

The contracted Melania. Shell turriculated, somewhat club-shaped at the base, dark-olive, whorls eight to nine, convex, slightly excavated round the upper part, spirally encircled with engraved striæ, upper striæ on the last two whorls obsolete, longitudinally superficially plicately wrinkled; aperture small, rotundately ovate.

Lamarck, Anim. sans vert. vol. viii. p. 430.

Hab. Java, Philippine Islands; Cuming.

A dark, greenish-olive shell, encircled with conspicuously cut, engraved striæ, which in the last two whorls appear only on the lower half.

Species 23. (Mus. Cuming.)

Melania Cumingii. *Mel. testâ subulato-turritâ, nigrâ, anfractibus octo ad novem, costâ tumidâ angulari spiraliter coronatis, deinde concavo-planatis, longitudinaliter minutè crispato-rugatis, striis spiralibus incisis decussatis; aperturâ parviusculâ, ad basin latâ, margine columellari calloso-appresso.*

Cuming's Melania. Shell subulately turreted, black, whorls eight to nine, coronated with a spiral swollen angular rib, then concavely flattened, longitudinally minutely crisply wrinkled, decussated with spiral engraved striæ; aperture rather small, broad at the base, columellar margin callously appressed.

Lea, Pro. Zool. Soc. 1850, p. 191.

Hab. Island of Siquijor, Philippines (in very small streams); Cuming.

A strikingly characteristic species of the *M. blatta* type, distinguished by having the whorls spirally surmounted by a stout, cord-like marginal rib.

Species 24. (Fig. *a*, *b*, Mus. Cuming.)

Melania fulgida. *Mel. testâ aciculari, ad basin tumidiusculâ, tenui, semipellucidâ, virescente vel olivaceâ, punctis perpaucis rufis obscurè maculatâ, suturis albidis, anfractibus tredecim ad quatuordecim, primis paucis densè longitudinaliter costatis; aperturâ parviusculâ, ad basin latâ, margine columellari calloso-appressâ.*

The glittering Melania. Shell acicular, somewhat swollen at the base, thin, semitransparent, pale-green or olive, obscurely sparingly red-dotted, sutures whitish, whorls thirteen to fourteen, the first few closely longitudinally ribbed; aperture rather small, broad at the base, columellar margin callously appressed.

Hab. Islands of Guimaras and Siquijor; Cuming.

These two shells, submitted by Mr. Cuming to Mr. Lea, and pronounced by him to be a variety of his *M. aculeus* (*M. crenulata*, Chemn.), appear to me to have a specific assemblage of characters of their own. I cannot bring them into any of the numerous varieties of that species. They are of light semitransparent substance, clavate towards the base, and have no transverse sculpture whatever. The first few whorls are closely, minutely, longitudinally ribbed. The sutures are whitish, and there is a characteristic though obscure sprinkling of red spots.

Species 25. (Mus. Cuming.)

Melania pyramidalis. *Mel. testâ elongato-pyramidali, solidâ, ponderosâ, sordidè olivaceâ, versus apicem rubello flammulatâ, anfractibus duodecim ad tredecim, convexo-planis, interdum obscurè spiraliter liratis; aperturâ ovatâ, ad basin productâ et subeffusâ.*

The pyramidal Melania. Shell elongately pyramidal, solid, heavy, dull-olive, painted towards the apex with reddish flames, whorls twelve to thirteen, convexly flattened, sometimes obscurely spirally ridged; aperture ovate, produced and a little effused at the base.

Morelet, Test. Nov. Amer. Cent. part 1. p. 25.

Hab. Upper Tabasco, Mexico.

This bold solid species presents a characteristic step to Mr. Lea's genus *Pachycheilus*, and should have been figured along with that group.

November, 1859.

Species 26. (Mus. Cuming.)

Melania crenulata. *Mel. testâ subulatâ, intensè olivaceâ, anfractibus decem ad undecim, convexis, supernè subcontractis, spiraliter latè planiliratis et sulcatis, liris superioribus quadrato-granatis; aperturâ oblongo-ovatâ, margine columellari calloso-appressâ.*

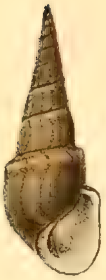
The crenulated Melania. Shell subulate, dark-olive, whorls ten to eleven, convex, a little contracted at the upper part, spirally broadly flatly ridged and grooved, uppermost ridges square-grained; aperture oblong-ovate, columellar margin callously appressed.

Helix turrita-crenulata, Chemnitz, Conch. Cab. xi. p. 165.
Melania crenulata, Deshayes.
Melania Tirouri, Férussac.
Melaniæ Tirouri and *Celebensis*, Quoy.
Melania aculens, Lea.

Hab. Philippine Islands.

An extremely variable species, though presenting in all its varieties few or more transverse grooves, with the intermediate ridges crenulated through being cut into flattened quadrate warts or grains by longitudinal engraved striæ.

Melania Pl. VI.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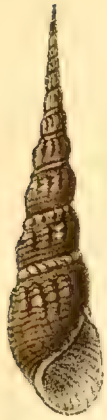
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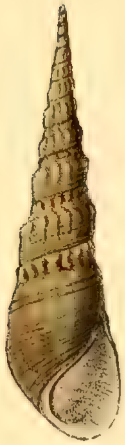
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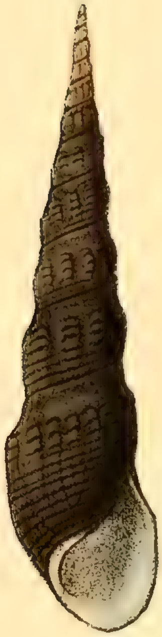
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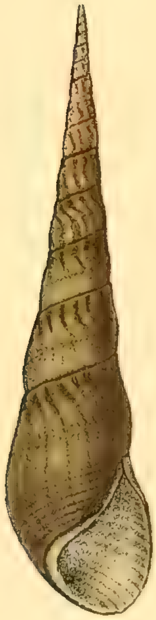
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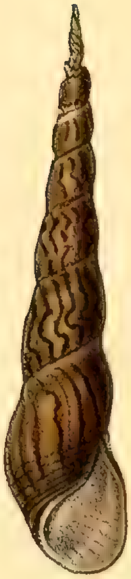
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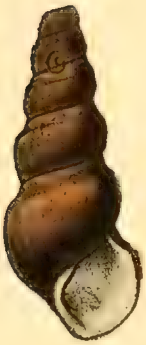
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MELANIA.

Plate VI.

Species 27. (Mus. Cuming.)

Melania cochlidium. *Mel. testâ acutè subulatâ, ad basin angulato-clavatâ, solidiusculâ, virente-olivaceâ vel rufescente, anfractibus undecim ad duodecim, primis paucis obliquè minutè costatis, cæteris planis, lævibus, obliquè striatis, anfractu ultimo carinâ obtusâ prominente supernè funiculato; aperturâ parviusculâ, margine columellari calloso-incurvo.*

The winding-stair Melania. Shell sharply subulate, angularly club-shaped at the base, rather solid, greenish-olive or reddish, whorls eleven to twelve, the first few obliquely minutely ribbed, the rest flat, smooth, obliquely striated, last whorl corded round the upper part with a prominent minute keel; aperture rather small, columellar margin callously incurved.

Lea, Pro. Zool. Soc. 1850, p. 183.

Hab. Islands of Siquijor and Guimaras, Philippines (in very small streams); Cuming.

This is, I fear, a variety, if not a monstrosity, of *M. sobria* of the same author, with the last whorl bulging round the upper part into a prominent shelf. Both are from the same locality.

Species 28. (Fig. 28 *a*, *b*, and 29 *a*, *b*, Mus. Cuming.)

Melania costata. *Mel. testâ aciculari, angustâ, olivaceo vel nigricante, anfractibus tredecim ad quatuordecim, supernè contractis, deinde plicato-costatis, striis incisis spiraliter sulcatis; aperturâ parviusculâ, margine columellari incurvâ.*

The ribbed Melania. Shell acicular, narrow, olive or blackish, whorls thirteen to fourteen, contracted round the upper part, then plicately ribbed, grooved throughout with spiral engraved striæ; aperture rather small, columellar margin callously incurved.

Quoy and Gaimard, Zool. Voy. de l'Astrolabe, vol. iii. p. 155. pl. 56. f. 34–37.
Melania hastula, Lea.

Hab. Philippine Islands; Cuming.

This species is of the same Protean character as *M. asperata*. In its typical state, as represented by M. Quoy, and in the accompanying Plate, at Fig. 28 *a*, it is of very slender acicular form, encircled throughout with strongly grooved striæ, crossing over prominent longitudinally plicated ribs. The ribs and grooves in some specimens, as at Fig. 29 *a*, are much less apparent, and in others, as at Fig. 29 *b*, they are not developed at all; and the shell relieved of this crumpled sculpture is always larger and thinner, just as in the Cones the shell is smaller when granulated, and larger when the calcifying functions of the animal are not absorbed in the work of elaboration.

Species 30. (Mus. Cuming.)

Melania obstricta. *Mel. testâ acutè subulatâ, tenuiculâ, ad basin constrictâ et truncatâ, luteo-olivaceâ, corneâ, castaneo irregulariter longitudinaliter punctato-flammatâ, anfractibus decem ad duodecim, supernè peculiariter constrictis, lævibus, ad suturas subplicatis; aperturâ breviusculâ, labro effuso.*

The tied Melania. Shell elongately subulate, rather thin, constricted and truncated at the base, yellowish-olive, horny, irregularly longitudinally dot-flamed with chestnut, whorls ten to twelve, peculiarly constricted round the upper part, smooth, a little puckered at the suture; aperture rather short, lip effused.

Hab. —— ?

A very distinct, smooth species, of which Mr. Cuming has specimens with and without flamed painting, of a characteristic sombre olive-colour, peculiarly constricted both on the upper and lower parts of the whorls.

Species 31. (Mus. Cuming.)

Melania canaliculata. *Mel. testâ turriculatâ, intensè castaneâ, anfractibus subangustis, rotundatis, lævibus vel obscurè spiraliter striatis, supernè conspicuè latè concavo-canaliculatis; aperturâ parvâ, ovatâ, ad basin subproductâ.*

The channelled Melania. Shell turriculated, dark-chestnut, whorls rather narrow, rounded, smooth, or obscurely spirally striated, conspicuously broadly concavely channelled round the upper part; aperture small, ovate, slightly produced at the base.

Hab. Sooloo Islands.

A rather narrow turriculated shell, of solid growth, and dark-chestnut colour, encircled throughout beneath the suture with a broad, neatly excavated channel. It resembles in some respects the figure of *M. Tourannensis*, a species unknown to me, described by M. Souleyet in the Zool. Voy. de la Bonite, but it is more slender, and has not the produced extension of the lip, of which he gives an enlarged outline.

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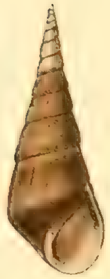

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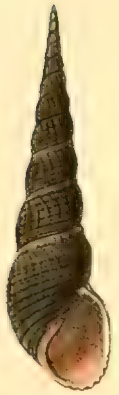

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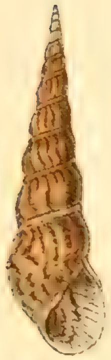

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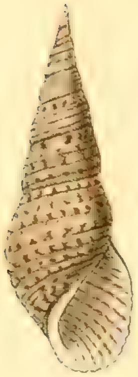

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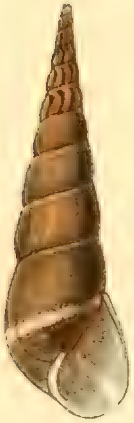

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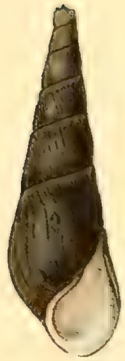

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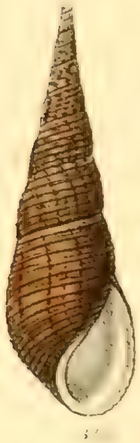

34

MELANIA.

PLATE VII.

Species 32. (Mus. Cuming.)

Melania sobria. *Mel. testâ acutè subulatâ, ad basin subangulatâ, solidiusculâ, virente-olivaceâ aut rufescente, prope suturas obscurè rufo-maculatâ, anfractibus undecim ad duodecim, planatis, tenuè obliquè striatis, anfractibus perpaucis primis minutè costatis; aperturâ parviusculâ, margine columellari calloso-incurvo.*

The sober Melania. Shell sharply subulate, slightly angled at the base, rather solid, greenish-olive or reddish, obscurely red-spotted near the sutures, whorls eleven to twelve, flattened, finely obliquely striated, the first few whorls minutely ribbed; aperture rather small, columellar margin callously incurved.

Lea, Pro. Zool. Soc. 1850, p. 181.

Hab. Island of Siquijor, Philippines (in very small streams); Cuming.

A shell of solid growth, with a shining olive epidermis, obscurely red-spotted beneath the sutures. The first few whorls are minutely ribbed.

Mr. Lea's *M. cochlidium* appears to me, from a careful comparison of his types, to be a variety of this species in which the last whorl is produced round the upper part into a prominent thickened shelf.

Species 33. (Fig. *a*, *b*, Mus. Cuming.)

Melania juncea. *Mel. testâ elongato-subulatâ, tenui, pallescente-olivaceâ, pellucidâ, rufo-flammulatâ, interdum purpureo-fuscâ aut nigricante, suturis albidis, anfractibus duodecim, convexis, supernè subdeclivi-incurvo, spiraliter sulcato-striatis, striis plus minus distantibus; aperturâ parvâ.*

The bulrush Melania. Shell elongately subulate, thin, pale-olive, transparent, flamed with red, sometimes purple-brown or blackish, sutures whitish, whorls twelve, convex, somewhat slopingly incurved round the upper part, spirally groove-striated, striæ more or less distant; aperture small.

Lea, Pro. Zool. Soc. 1850, p. 189.

Hab. Island of Luzon, Philippines (in Lake of Taal, and in small streams); Cuming.

A slender, gracefully subulate species, of light substance, marked with red flames in its typical state, but varying in colour to a dark chocolate-brown, or black.

Species 34. (Fig. 34 *a*, Mus. Cuming. Fig. 34 *b*, Mus. V. d. Busch.)

Melania Mindoriensis. *Mel. testâ conico-subulatâ, tenui, tumidulâ, virente-olivaceâ, anfractibus undecim ad duodecim, plano-convexis, striis elevatis lirisque planatis, quarum interstitiis excavatis, undique cingulatis; aperturâ oblongo-ovatâ, margine columellari calloso-incurvo.*

The Mindoro Melania. Shell conically subulate, thin, rather swollen, greenish-olive, whorls eleven to twelve, flatly convex, encircled throughout with raised striæ and flattened ridges, the interstices between which are excavated; aperture oblong-ovate, columellar margin callously incurved.

Lea, Pro. Zool. Soc. 1850, p. 187.

Hab. Puerto Galero, Island of Mindoro, Philippines (in small streams); Cuming.

Of a characteristic conically subulate form, encircled throughout with more or less regularity by flattened ridges or striæ, between which the interstices are often excavated with particular distinctness. Another character to be noted is that the shell is painted with a profusion of red dots, which appear only on the ridges, never in the interstices.

Species 35. (Mus. Cuming.)

Melania cincta. *Mel. testâ subulatâ, tenuiculâ, rufo-castaneâ, ad basin fasciâ angustâ luteolâ cingulatâ, anfractibus duodecim, plano-convexis, ad suturas submarginatis, primis paucis spiraliter sulcato-striatis et conspicuè obliquè corrugato-plicatis; aperturâ parviusculâ, margine columellari calloso-incurvo.*

The girdled Melania. Shell subulate, rather thin, reddish-chestnut, encircled at the base with a narrow yellowish band, whorls twelve, flatly convex, slightly margined at the sutures, the first few spirally groove-striated, and conspicuously obliquely wrinkle-plaited; aperture rather small, columellar margin callously incurved.

Lea, Pro. Zool. Soc. 1850, p. 183.

Hab. India.

The narrow yellow band which is seen at the base of this species is a very characteristic feature. In the convoluted portion of the shell it is concealed by the over-

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coiling of the whorls. The wrinkle-like plaits at the apex are unusually strongly developed and distant, and they cease rather abruptly.

Species 36. (Mus. Cuming.)

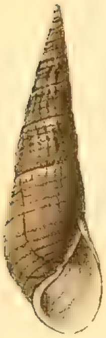
MELANIA PLUTONIS. *Mel. testâ pyramidato-subulatâ, nitente-atrâ, anfractibus convexo-planatis, longitudinaliter crispato-striatis, striis prope suturas subplicatis, suturis impressis; aperturâ ovatâ, margine columellari calloso-incurvo.*

PLUTO'S MELANIA. Shell pyramidally subulate, shining-black, whorls convexly flattened, longitudinally crisply striated, striæ a little plicated near the sutures, sutures impressed; aperture ovate, columellar margin callously incurved.

HINDS, Moll. Voy. Sulphur, p. 55. pl. 15. f. 14.

Hab. Feejee Islands (in the rivers); Hinds.

A solid black shell, apparently smooth, but on examination with the lens it will be seen that the surface is covered with crisp wrinkle-like striæ, which at the sutures take the form of concentric folds.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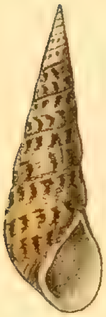
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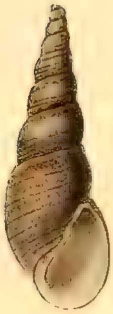
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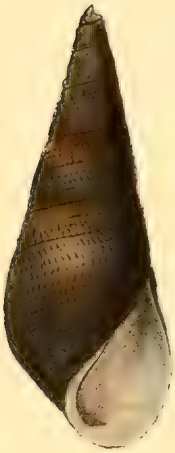
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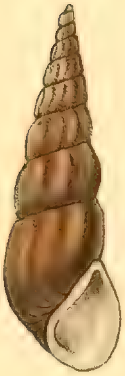
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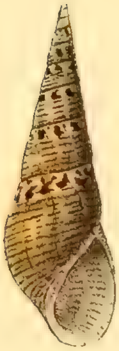
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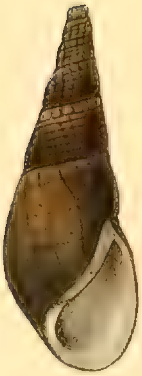
37b

MELANIA.

Plate VIII.

Species 37. (Fig. 37 *a*, Mus. Cuming. Fig. 37 *b*, Mus. V. d. Busch.)

MELANIA SEMICANCELLATA. *Mel. testâ subulatâ, versus basin obesâ et clavatâ, nigricante-olivaceâ, anfractibus novem, primis paucis plicis longitudinalibus sulcisque spiralibus cancellatis, plicis sulcisque gradatim evanidis, spiræ suturâ impressâ; aperturâ ovatâ, margine columellari subcalloso.*

THE HALF-CANCELLATED MELANIA. Shell subulate, stout and club-shaped towards the base, dark-olive, whorls nine, the first few cancellated with longitudinal plaits and spiral grooves, plaits and grooves gradually vanishing, suture of the spire impressed; aperture ovate, columellar margin rather callous.

VON DEM BUSCH, Philippi, Abbild. und Besch. Conch. vol. i. p. 139. pl. 3. f. 2.

Hab. Java?

The shell represented at Fig. 37 *b* is the type of the species, from the collection of Dr. Von dem Busch. The upper portion is cancellated by longitudinal folds crossed with spiral grooves, which soon become indistinct, and disappear.

Species 38. (Mus. V. d. Busch.)

MELANIA PANTHERINA. *Mel. testâ subulatâ, solidiusculâ, virescente-albâ, flammis rufis breviusculis biseriatim cingulatâ, anfractibus decem ad duodecim, plano-convexis, undique lineari-sulcatis; aperturâ parviusculâ.*

THE PANTHER MELANIA. Shell subulate, rather solid, greenish-white, encircled with rows of short red flames, whorls ten to twelve, flatly convex, linearly grooved throughout; aperture rather small.

VON DEM BUSCH, Malak. Blitt. 1858, vol. v. p. 33.

Hab. Philippine Islands; Cuming.

A rather solid, finely grooved shell, painted in a characteristic manner throughout with rows of short, promiscuously waved, red flames.

Species 39. (Mus. Cuming.)

MELANIA LANCEA. *Mel. testâ subulato-turriculatâ, livido-olivaceâ, anfractibus decem ad duodecim, convexis, lævibus, infernè spiraliter lineari-sulcatis; aperturâ parviusculâ, margine columellari calloso-incurvo.*

THE LANCE MELANIA. Shell subulately turriculated, livid-olive, whorls ten to twelve, convex, smooth, spirally linearly grooved round the lower part; aperture rather small, columellar margin callously incurved.

LEA, Pro. Zool. Soc. 1850, p. 183.

Hab. Ohcataroa, Society Islands.

A dull, livid-olive shell, with the whorls linearly grooved round the lower part of each.

Species 40. (Mus. Cuming.)

MELANIA LÆVIS. *Mel. testâ pyramidali-clavatâ, solidiusculâ, nigricante-castaneâ, anfractibus septem ad octo, planatis, longitudinaliter crispato-striatis, spiraliter superficialiter sulcatis, spiræ suturâ impressâ, anfractu ultimo ventricoso, obtusè angulato; aperturâ ovatâ, margine columellari calloso.*

THE SMOOTH MELANIA. Shell pyramidally club-shaped, rather solid, blackish-olive, whorls seven to eight, flattened, longitudinally crisply striated, and spirally superficially grooved, suture of the spire impressed, last whorl ventricose, obtusely angled; aperture ovate, columellar margin callous.

GRAY, Griff. Cuv. Animal Kingdom, pl. 14. f. 8.

Hab. —— ?

A stout, crisply-striated shell.

Species 41. (Mus. Cuming.)

MELANIA RECTA. *Mel. testâ elongato-turriculatâ, solidâ, fumeo-olivaceâ, anfractibus duodecim ad tredecim, lævibus, undique obliquè validè plicatis, spiræ suturâ minutè canaliculatâ; aperturâ parvâ, margine columellari calloso.*

THE STRAIGHT MELANIA. Shell elongately turriculated, solid, smoky-olive, whorls twelve to thirteen, smooth, obliquely strongly plaited throughout, suture of the spire minutely channelled; aperture small, columellar margin callous.

LEA, Pro. Zool. Soc. 1850, p. 185.

Hab. Islands of Siquijor and Negros, Philippines; Cuming.

The strong, oblique plaits of this species are rather unusual in the genus.

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Species 42. (Mus. Cuming.)

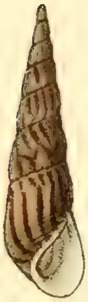
Melania albescens. *Mel. testâ conico-subulatâ, solidiusculâ, albidâ, virescente-tinctâ, lineis interruptis rufis interruptâ, infra suturas in maculis interdum aggregatis, anfractibus decem ad undecim, concavo-planatis, lævibus; aperturâ parviusculâ.*

The whitish Melania. Shell conically subulate, rather solid, whitish, tinged with green, encircled with interrupted red lines, sometimes collected in blotches beneath the sutures, whorls ten to eleven, concavely flattened, smooth; aperture rather small.

Lea, Pro. Zool. Soc. 1850, p. 188.

Hab. Islands of Guimaras, Negros and Siquijor, Philippines (in small streams); Cuming.

This species may be readily distinguished by its encircling network of interrupted red lines, which incline to congregate into blotches beneath the suture.



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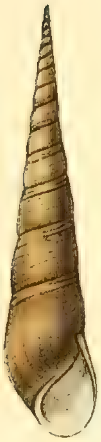

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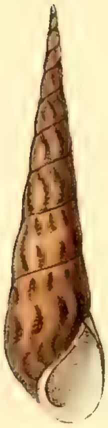

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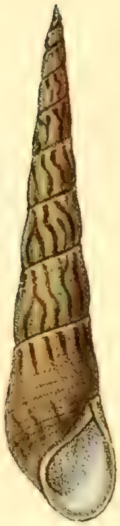

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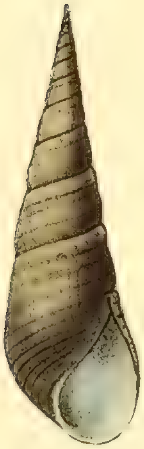

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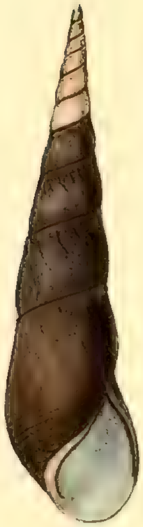

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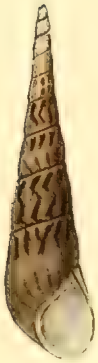

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MELANIA.

Plate IX.

Species 43. (Mus. Cuming.)

Melania picta. *Mel. testâ abbreviato-subulatâ, luteo-olivaceâ, flammis castaneo-rufis longitudinalibus undique pictâ, anfractibus novem ad decem, concentricè validè plicatis, prope suturas spiraliter lineari-sulcatis; aperturâ parvâ.*

The painted Melania. Shell shortly subulate, yellowish-olive, painted throughout with longitudinal chestnut-red flames, whorls nine to ten, strongly concentrically plaited, spirally linearly grooved next the sutures; aperture small.

Hinds, Moll. Voy. Sulphur, p. 56. pl. 15. f. 3.

Hab. Feejee Islands; Macgillivray.

The striped painting is very conspicuous in this species, extending even to the callous columellar margin, and the whorls are for the most part strongly plicated.

Species 44. (Mus. Cuming.)

Melania unisulcata. *Mel. testâ acutè tereti, solidiusculâ, virente-olivaceâ, prope apicem obscurè rufo-punctatâ, anfractibus quindecim ad sexdecim, planulatis, undique densè spiraliter inciso-striatis, sulco unico infra suturas; aperturâ angustè ovatâ, margine columellari plano-calloso.*

The one-grooved Melania. Shell sharply tapering, rather solid, greenish-olive, obscurely red-dotted near the apex, whorls fifteen to sixteen, flattened, closely encircled throughout with engraved striæ, with a single groove below the sutures; aperture narrowly ovate, columellar margin flatly callous.

Hab. —— ?

I cannot bring this shell to agree with any known variety of its Protean congeners. It is of rather solid *Terebra*-like growth, chiefly distinguished by a single linear groove running throughout the upper part of the whorls.

Species 45. (Mus. V. d. Busch.)

Melania flammulata. *Mel. testâ angustè subulatâ, solidiusculâ, rufescente-albâ, flammis rufis subdistantibus undique pictâ, anfractibus undecim ad duodecim, convexo-planatis, striis incisis densè cingulatis, sub lente minutè longitudinaliter crispato-striatis; aperturâ parvâ, margine columellari calloso-incurvo.*

The flamed Melania. Shell narrowly subulate, rather solid, reddish-white, painted throughout with rather distant red flames, whorls eleven to twelve, convexly flattened, encircled with close-set engraved striæ, beneath the lens minutely longitudinally crisply striated; aperture small, columellar margin callously incurved.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. i. p. 1. pl. 1. f. 3, 4.

Hab. Java.

The flamed painting of this species has a character of its own, and the structure and contour of the whorls is also peculiar.

Species 46. (Mus. Cuming.)

Melania terebra. *Mel. testâ angustè tereti, virente-olivaceâ, infra suturas rufo flammatâ, suturis albis, anfractibus duodecim ad quatuordecim, convexo-planis, striis spiralibus tenuibus striisque longitudinalibus crispatis undique confertim decussatis; aperturâ parviusculâ, margine columellari calloso-incurvo.*

The auger Melania. Shell narrowly tapering, greenish-olive, flamed with red beneath the sutures, sutures white, whorls twelve to fourteen, convexly flattened, closely decussated throughout with fine, spiral, and longitudinal crisped striæ; aperture rather small, columellar margin callously incurved.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. i. p. 4. pl. 1. f. 17.

Hab. Java.

The original type of this species, figured by Dr. Philippi, is an extremely young shell. A more mature specimen, received from Dr. V. d. Busch, has enabled me to identify it with the still finer specimen in Mr. Cuming's collection, represented in the accompanying Plate.

Species 47. (Mus. V. d. Busch.)

Melania Petiti. *Mel. testâ subulatâ, subventricosâ, sordidè olivaceâ, anfractibus decem ad duodecim, sulcis paucis superficiariis linearibus irregularibus cingulatis, longitudinaliter irregulariter corrugato-striatis; aperturâ ovatâ, margine columellari calloso.*

Petit's Melania. Shell subulate, slightly ventricose,

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dingy-olive, whorls ten to twelve, encircled with a few superficial irregular linear grooves, longitudinally irregularly wrinkle-striated; aperture ovate, columellar margin callous.

PHILIPPI, MS. in Mus. V. d. Busch.

Hab. —— ?

A very distinct and well-defined species, though of simple character. The superficial grooving and striation would appear from its irregularity and wrinkled character to exist only in the shining dingy-olive epidermis.

Species 48. (Mus. Cuming.)

MELANIA ACUTA. *Mel. testâ tereti, fusco-nigrâ, anfractibus undecim ad duodecim, lævibus, convexis, supernè superficialiter constrictis; aperturâ ovatâ, margine columellari calloso-incurvo.*

THE SHARP MELANIA. Shell tapering, fuscous-black, whorls eleven to twelve, smooth, convex, superficially constricted at the upper part; aperture ovate, columellar margin callously incurved.

LEA, Obs. vol. iv. p. 70.

Hab. Arroo Isles.

A light, smooth shell, of shining fuscous-black, having the whorls delicately superficially constricted round the upper part.

Species 49. (Mus. Cuming.)

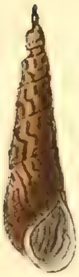
MELANIA FIGURATA. *Mel. testâ angustè subulatâ, olivaceâ, flammis brevibus purpureo-rufis infra suturas cingulatâ, deinde lineis purpureo-rufis interruptis, anfractibus duodecim ad tredecim, convexo-planatis, lævibus; aperturâ parvâ.*

THE FIGURED MELANIA. Shell narrowly subulate, olive, encircled below the sutures with short purple-red flames, then with interrupted purple-red lines, whorls twelve to thirteen, convexly flattened, smooth; aperture small.

HINDS, Moll. Voy. Sulphur, p. 56. pl. 15. f. 13.

Hab. New Hebrides; Hinds.

An excellent species, not figured, I regret to say, in the accompanying Plate, with Mr. Sowerby's usual success. The coloured flames appear only on the upper part of the whorls, not on the lower part as well, as depicted in the penultimate whorl of our figure; and the lower portion of each whorl is delicately painted with interrupted transverse lines of colour.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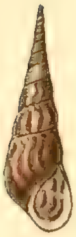
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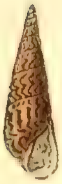
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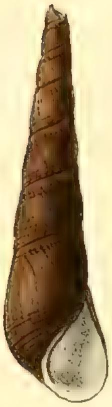
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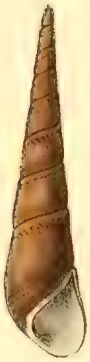
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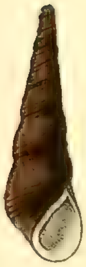
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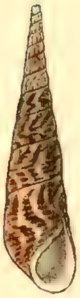
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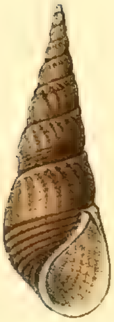
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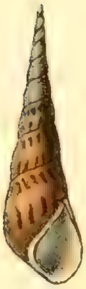
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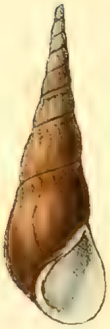
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MELANIA.

PLATE X.

Species 50. (Mus. Cuming.)

MELANIA BUSCHIANA. *Mel. testâ aciculari, spirâ peracutâ, intense olivaceâ, flammis nigris longitudinaliter copiosè pictâ, anfractibus supernè constrictis, ad marginem funiculatis, undique transversim punctato-striatis; aperturâ parviusculâ, margine columellari calloso-incurvâ.*

BUSCH'S MELANIA. Shell acicular, spire very sharp, dark-olive, copiously painted longitudinally with black flames, whorls constricted round the upper part, corded at the margin, transversely puncture-striated throughout; aperture rather small, columellar margin callously incurved.

Hab. California.

In naming this very interesting Californian species after Dr. Von dem Busch, of Bremen, I am glad to avail myself of the opportunity of thanking him for the prompt liberality with which he has sent me all the typical specimens of this family from his collection for examination. Without his aid there are several species described by German writers, which it is more than probable I should not have succeeded in identifying.

Species 51. (Mus. Cuming.)

MELANIA PYRAMIS. *Mel. testâ aciculari-turritâ, pallidè olivaceâ, rufo-fusco copiosè flammatâ, fasciâ latiusculâ ad basin, anfractibus tredecim ad quatuordecim, subrotundatis, primis decem ad undecim spiraliter punctato-sulcatis, cæteris lævibus; aperturâ parviusculâ, latè ovatâ, margine columellari ad basin calloso-effusâ.*

THE PYRAMID MELANIA. Shell acicularly turreted, pale-olive, copiously flamed with red-brown, with a rather broad band at the base, whorls thirteen to fourteen, somewhat rounded, the first ten or eleven spirally puncture-grooved, the rest smooth, aperture rather small, broadly ovate, columellar margin callously effused at the base.

BENSON (not of V. d. Busch).

Hab. Borneo.

A rather light shell, with the whorls somewhat rounded, conspicuously painted throughout with very irregularly waved rust-brown flames, and encircled with a rather broad band of the same colour at the base.

Species 52. (Mus. Cuming.)

MELANIA CIMELIUM. *Mel. testâ acuminatâ, solidiusculâ, basin versus subangustâ, olivaceâ, castaneo undique copiosè flammulatâ, flammulis gracilibus, acutè undatis, confertis, anfractibus ad decem, planulatis, striis incisis perpaucis superficiariis cingulatis; aperturâ parvâ.*

THE JEWEL MELANIA. Shell acuminated, rather solid, rather narrow towards the base, olive, everywhere copiously flamed with chestnut, flames slender, sharply waved, close-set, whorls about ten, rather flat, encircled with a few superficial grooved striæ; aperture small.

Hab. Solomon's Island.

A rather solid, shining, narrowly convoluted shell, prettily painted throughout with chestnut flames, which are unusually sharply zigzag and close-set.

Species 53. (Fig. *a*, *b*, Mus. Cuming.)

MELANIA ASPIRANS. *Mel. testâ angustè subulatâ, olivaceâ vel fusco-nigrâ, anfractibus decem ad duodecim, planulatis, latis, supernè constrictis, ad marginem funiculatis, interdum subplicatis, ultimo ad basin multisulcato; aperturâ parvâ, margine columellari calloso-excavato.*

THE ASPIRING MELANIA. Shell narrowly subulate, olive or brown-black, whorls ten to twelve, rather flat, broad, constricted at the upper part, corded at the margin, sometimes a little puckered, last whorl many-grooved at the base; aperture small, columellar margin callously excavated.

HINDS, Moll. Voy. Sulphur, p. 56. pl. 15.

Hab. Feejee Islands; Hinds. West Africa.

This species is well distinguished by the pinched, drawn out character of the whorls. The specimen Fig. 53 *a*, is one of Mr. Hinds's original types, collected at the Feejee Islands, and that Fig. 53 *b*, undoubtedly the same species, was received by Mr. Cuming from West Africa.

Species 54. (Mus. V. d. Busch.)

MELANIA NICOBARICA. *Mel. testâ turriculatâ, solidiusculâ, nigrâ, anfractibus decem ad duodecim, subrotundatis, primis undique spiraliter sulcatis, cæteris sulcis superioribus mediisque evanidis; aperturâ parviusculâ.*

The Nicobar Melania. Shell turriculated, rather solid, black, whorls ten to twelve, somewhat rounded, the first spirally grooved throughout, the rest with the upper and lower grooves fading away; aperture rather small.

Morch, MS. in Mus. V. d. Busch.

Hab. Nicobar.

A rather solid shell, impressed at the suture, spirally grooved throughout in the earlier whorls, but in the later whorls only grooved at the lower part.

Species 55. (Mus. Cuming.)

Melania fulgurans. *Mel. testâ angustè tereti, solidiusculâ, pallidè olivaceâ, rufo-fusco longitudinaliter interruptè flammatâ, anfractibus decem ad duodecim, planulatis, primis longitudinaliter tenuicostatis, cæteris longitudinaliter striatis; aperturâ parvâ, margine columellari latè callosâ.*

The lightning Melania. Shell narrowly terete, rather solid, pale-olive, longitudinally interruptedly flamed with red-brown, whorls ten to twelve, rather flat, the first longitudinally finely ribbed, the rest longitudinally striated; aperture small, columellar margin broadly callous.

Hinds, Moll. Voy. Sulphur, p. 57. pl. 15. f. 6.

Hab. New Hebrides.

One of the most obvious peculiarities of this species consists in the coloured flames being interrupted throughout with transverse linear breaks.

Species 56. (Mus. Cuming.)

Melania indefinita. *Mel. testâ turriculatâ, virente-olivaceâ, suturis lutescentibus, anfractibus decem ad duodecim, spiraliter striato-sulcatis, supernè obliquè plicatis, ultimo subventricoso; aperturâ ovatâ.*

The indefinite Melania. Shell turriculated, green-olive, sutures yellowish, whorls ten to twelve, spirally striately grooved, obliquely puckered round the upper part, last whorl rather ventricose; aperture ovate.

Lea, Pro. Zool. Soc. 1850, p. 187.

Hab. Naga, Island of Luzon, Philippine Islands; Cuming. Sandwich Islands (*sub nomine M. Newcombi*); Pease.

I see no difference between the Sandwich and Philippine Islands' specimens excepting that the first are rather more puckered at the sutures.

Species 57 (Fig. 57 and 58, Mus. V. d. Busch.)

Melania acutissima. *Mel. testâ acutè subulatâ, nigricante-olivaceâ, flammis fuscis brevibus infra suturas interdum pictâ, anfractibus decem ad duodecim, plano-convexis, decussatim striatis, ad marginem funiculatis; aperturâ ovatâ, margine columellari calloso-excavatis.*

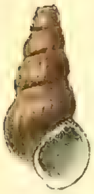
The very sharp Melania. Shell sharply subulate, blackish-olive, sometimes painted beneath the sutures with short brown flames, whorls ten to twelve, flatly convex, decussately striated, corded at the margin; aperture ovate, columellar margin callously excavated.

Von dem Busch, Malak. Bltt. vol. v. p. 33.

Hab. ——?

The spire of this species is rather more attenuately drawn out than usual.

Melania Pl. XI.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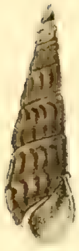
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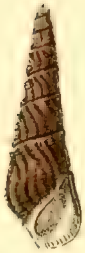
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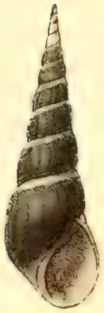
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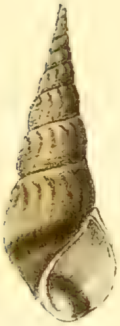
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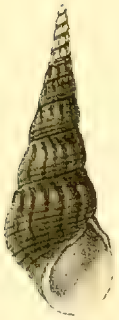
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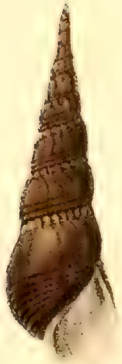
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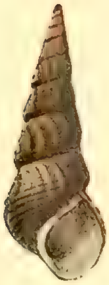
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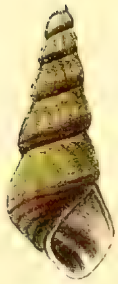
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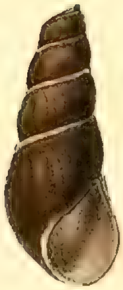
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MELANIA.

Plate XI.

Species 59. (Mus. Benson.)

Melania terebra. *Mel. testâ turriculatâ, solidiusculâ, fusco-olivaceâ, immaculatâ, anfractibus octo ad decem, rotundatis, lævibus, supernè declivi-impressis; aperturâ parvâ, margine columellari calloso-reflexo.*

The auger Melania. Shell turriculated, rather solid, brownish-olive, unspotted, whorls eight to ten, rounded, smooth, slopingly impressed round the upper part; aperture small, columellar margin callously reflected.

Benson, Journ. Acad. Nat. Sci. Calcutta, 1836, vol. v. p. 747.

Melania torquata, V. d. Busch.

Hab. North-east frontier of Bengal; Benson.

A rather solid, smooth shell, of slender growth, with the whorls rounded and rather flatly sloping from the sutures.

Species 60. (Mus. Cuming.)

Melania Samoensis. *Mel. testâ tereti, tenuiculâ, luteo-olivaceâ, nigricante-cinereo latifasciatâ, infra suturas rufo-fusco breviflammatâ, anfractibus octo ad decem, latis, spiraliter densè striato-sulcatis, ad marginem funiculatis; aperturâ subangustâ, margine columellari calloso-incurvo.*

The Samoe Melania. Shell terete, rather thin, yellowish-olive, encircled by a broad blackish-ash band, with short red-brown flames beneath the sutures, whorls eight to ten, broad, spirally densely groove-striated, corded at the margin; aperture rather narrow, columellar margin callously incurved.

Hab. Isle of Samoe, Pacific; Cuming.

A well-defined species, of light substance, and rather slender growth, closely finely grooved throughout. The whorls are encircled round the middle with a dark-ash band, and above it is a fringe of red-brown flames upon a yellowish-olive ground.

Species 61. (Mus. Cuming.)

Melania luctuosa. *Mel. testâ pyramidali-tereti, solidiusculâ, olivaceâ, obscurè rufo-fusco obliquè breviflammatâ, anfractibus decem ad undecim, medio concaviusculis, margine funiculatis, spiraliter sulcatis, liris intermediis planatis; aperturâ parvâ, subtrigono-ovatâ.*

The mournful Melania. Shell pyramidally terete, rather solid, olive, obscurely obliquely short-flamed with red-brown, whorls ten to eleven, rather concave round the middle, corded at the margin, spirally grooved, intermediate ridges flattened; aperture small, somewhat triangularly ovate.

Hinds, Moll. Voy. Sulphur, p. 56. pl. 15. f. 1.

Hab. Feejee Islands; Hinds.

Of the same general typical character as the preceding Pacific species, but quite distinct in detail. The shell is of a solid growth, with the whorls concavely contracted round the middle, and more prominently spirally grooved throughout.

Species 62. (Mus. Cuming.)

Melania subula. *Mel. testâ acutè subulatâ, livido-olivaceâ, cinereo-fusco tinctâ, suturis luteolis, flammis rufis brevibus descendentibus, anfractûs ultimi basi luteolâ, anfractibus duodecim ad tredecim, primis spiraliter punctato-sulcatis, sulcis versus aperturam gradatim evanidis; aperturâ parviusculâ, margine columellari calloso-incurvo.*

The awl Melania. Shell sharply subulate, livid-olive, stained with ash-brown, sutures yellowish, with short red flames descending, base of the last whorl yellowish, whorls twelve to thirteen, the first spirally puncture-grooved, grooves gradually disappearing towards the aperture; aperture rather small, columellar margin callously incurved.

Lea, Pro. Zool. Soc. 1850, p. 181.

Hab. Ilo-Ilo, Isle of Panay, Philippines (in a small river); Cuming.

The basal extremity of this sharply subulate shell and the upper margin of each whorl at the suture are of a light-yellowish colour, almost white, while the rest is of a livid smoky-olive.

Species 63. (Mus. Cuming.)

Melania canalis. *Mel. testâ subulatâ, subventricosâ, virescente-luteâ, obscurè rufo-fusco punctatâ et breviflammatâ, anfractu ultimo prope basin fusco latifasciato, anfractibus decem ad duodecim, convexis, longitudinaliter rudè subplicatis, spiraliter sulcatis, sulcis versus aperturam subevanidis, suturis impressis; aperturâ ovatâ, basi subeffusâ.*

The canal Melania. Shell subulate, rather ventricose, greenish-yellow, obscurely dotted and short-flamed with red-brown, last whorl encircled near the base

December, 1859.

with a broad brown band, whorls ten to twelve, convex, longitudinally rudely subplicated, spirally grooved, the grooves becoming fainter towards the aperture, sutures impressed; aperture ovate, effused at the base.

Lea, Pro. Zool. Soc. 1850, p. 180.

Hab. Island of Guimaras, Philippines (in small streams); Cuming.

Very closely allied to the preceding species, and not improbably a variety of more ventricose and less subulate growth of ruder development.

Species 64. (Mus. Cuming.)

Melania ærea. *Mel. testâ subulatâ, olivaceo-virente, rufo-fusco infra suturas punctatâ et brevi-flammatâ, anfractibus undecim ad duodecim, rotundatis, supernè declivi-concavis, lævibus, deinde convexis spiraliter lineari-sulcatis; aperturâ parviusculâ, basi subeffusâ.*

The brass Melania. Shell subulate, olive-green, dotted and short-flamed beneath the sutures with red-brown, whorls eleven to twelve, rounded, slopingly concave at the upper part, smooth, then convex, spirally linearly grooved; aperture rather small, slightly effused at the base.

Hab. Philippine Islands; Cuming.

Of the same typical form as the two preceding species from the same locality; but, irrespective of a difference in the contour of the whorls, the light colouring of the sutures is wanting, and the linear grooves do not become obsolete.

Species 65. (Mus. Cuming.)

Melania Bullioides. *Mel. testâ acutè subulatâ, livido-fuscescente, olivaceo tinctâ, immaculatâ, anfractibus undecim ad duodecim, primis fortiter plicato-costatis, cæteris ad suturas tantum plicatis, medio lævibus, supra et infra spiraliter lineari-sulcatis; aperturâ parviusculâ, margine columellari calloso-incurvo.*

The Bullia-like Melania. Shell sharply subulate, livid-brown, tinged with olive, unspotted, whorls eleven to twelve, the first strongly plicately ribbed, the rest plaited only at the sutures, smooth in the middle, spirally linearly grooved above and below; aperture rather small, columellar margin callously incurved.

Hab. Philippine Islands; Cuming.

Chiefly distinguished from its allies of the same habitat by the strongly plicated growth, and remarkable for its resemblance to a *Bullia.*

Species 66. (Mus. Cuming.)

Melania Wallacei. *Mel. testâ conico-subulatâ, solidiusculâ, intensè olivaceâ, anfractibus decem, minutè crispatis, infra suturas lineari-sulcatis, declivi-planatis, infernè abruptè angulatis et constrictis, versus aperturam rotundatis; aperturâ parvâ, basi subeffusâ.*

Wallace's Melania. Shell conically subulate, rather solid, dark-olive, whorls ten, minutely crisped, linearly grooved beneath the sutures, slopingly flattened, abruptly angled and constricted at the lower part, rounded towards the aperture; aperture small, effused at the base.

Hab. Macassar.

A very characteristic species, collected by that most assiduous traveller and naturalist Mr. Wallace, at Macassar. Its chief peculiarity consists in the conically pyramidal form of the earlier whorls, and their sudden angular constriction at the lower part.

Fig. 67. (Mus. Cuming).

The shell here figured is a specimen from India, of immature growth, presenting characters which seem to pass into *M. corrugata.* Although smooth, there are indications of the corrugate ribs of that species, as well as of the very characteristic dark sutural band.

Species 68. (Mus. Cuming.)

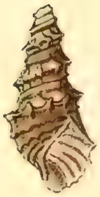
Melania corporosa. *Mel. testâ ovato-subulatâ, livido-castaneâ, prope suturas lutescente, anfractibus paucis, subconvexis, lævibus, minutissimè decussatim striatis, versus apicem lineari-sulcatis, supernè subimpressis, margine funiculatis; aperturâ parviusculâ, margine columellari calloso-incurvo.*

The stout Melania. Shell ovately subulate, livid-chestnut, yellowish next the sutures, whorls few, slightly convex, smooth, minutely decussately striated, linearly grooved towards the apex, slightly impressed at the upper part, corded at the margin; aperture rather small, columellar margin callously incurved.

Gould, MS. in Mus. Cuming.

Hab. —— ?

Mr. Cuming possesses no information of the habitat of this shell. It very much resembles the *M. ferrea,* from Borneo, but I cannot find any trace of spiral linear grooves in the early whorls of that species, which is a character of importance.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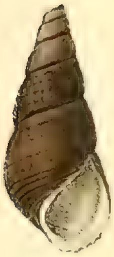
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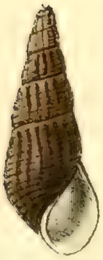
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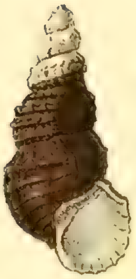
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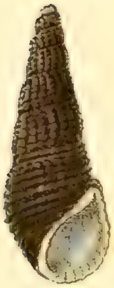
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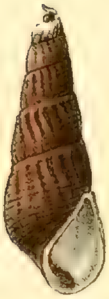
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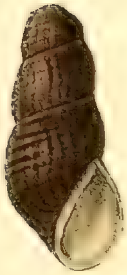
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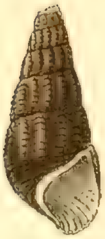
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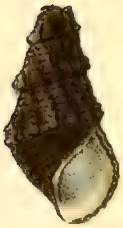
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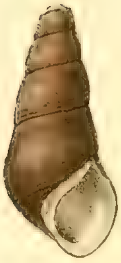
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MELANIA.

Plate XII.

Fig. 69. (Mus. V. d. Busch.)

This little shell, received from Dr. Von dem Busch, proves on examination to be the young of *M. aspera*, the variety represented in Plate I. Fig. 2 *a*.

Species 70. (Mus. Cuming.)

Melania Sinensis. *Mel. testâ ovato-subulatâ, subventricosâ, virescente-olivaceâ, anfractibus novem ad decem, convexis, undique spiraliter liratis, liris subsuperficiariis; aperturâ ovatâ, basi subeffusâ.*

The China Melania. Shell ovately subulate, somewhat ventricose, greenish-olive, whorls nine to ten, convex, spirally ridged throughout, ridges somewhat superficial; aperture ovate, slightly effused at the base.

Hab. China.

A shell of very simple character, superficially ridged throughout.

Species 71. (Mus. Cuming.)

Melania arcticava. *Mel. testâ subulatâ, solidiusculâ, intensè olivaceâ, purpureo copiosè punctatâ, anfractibus octo ad decem, declivi-planulatis, longitudinaliter plicato-sulcatis, sulcis linearibus spiralibus decussatis; aperturâ subangustè ovatâ.*

The grooved Melania. Shell subulate, rather solid, dark-olive, copiously dotted with purple, whorls eight to ten, slopingly flattened, longitudinally plicately grooved, crossed with spiral linear grooves; aperture rather narrowly ovate.

Mousson, MS. in Mus. Cuming.

Hab.—— ?

A very characteristic species, of solid growth, boldly plicately grooved longitudinally, and densely linearly grooved transversely, dark-olive in colour, plentifully sprinkled with purple dots.

Species 72. (Mus. Cuming.)

Melania pagodulus. *Mel. testâ turritâ, fuscescente-nigrâ, anfractibus sex ad septem, supernè declivi-angulatis, undique spiraliter liratis, liris plicis longitudinalibus hic illic decussatis; aperturâ rotundato-ovatâ, parvâ.*

The little pagoda. Shell turreted, brownish-black, whorls six to seven, slopingly angled round the upper part, spirally ridged throughout, ridges crossed here and there with longitudinal folds; aperture rotundately ovate, small.

Hab.—— ?

Nothing is known of the habitat of this well-marked species.

Species 73. (Mus. V. d. Busch.)

Melania aquatilis. *Mel. testâ subturritâ, solidâ, nigrâ, anfractibus novem ad decem, convexis, concentricè crenatim plicatis, liris spiraliter funiculatis, anfractu ultimo ad aperturam adscendente; aperturâ lineari-ovatâ, supra et infra effusâ, columellâ excavatâ.*

The rippled Melania. Shell somewhat turreted, solid, black, whorls nine to ten, convex, concentrically arcuately plicated, spirally corded with ridges, last whorl ascending at the aperture; aperture lunar-ovate, effused above and below, columella excavated.

Hab. Rio Branca, Guiana.

This shell has been taken for a variety of *M. ater*, but it will be found to differ in its detail of sculpture, while it is uniformly of smaller size.

Species 74. (Mus. Cuming.)

Melania exusta. *Mel. testâ pyramidali-subulatâ, solidâ, exusto-olivaceâ, anfractibus octo ad novem, subplanulatis, spiraliter lineari-sulcatis, versus apicem longitudinaliter obliquè plicatis, suturis profundè impressis; aperturâ subangustè ovatâ.*

The scorched Melania. Shell pyramidally subulate, solid, burnt-olive, whorls eight to nine, rather flattened, spirally linearly grooved, longitudinally obliquely plicated towards the apex, sutures deeply impressed; aperture rather narrowly ovate.

Hab. Solomon's Island.

Of a very distant type, having somewhat the aspect of a *Quoyia*.

Species 75. (Mus. V. d. Busch.)

Melania Erebus. *Mel. testâ oblongâ, fusco-nigrâ, anfractibus paucis, latis, subrotundatis, obsoletè decussatim-liratis, lævibus, supernè lineari-sulcatis; aperturâ parvâ, basi subeffusâ.*

December, 1859.

THE EREBUS MELANIA. Shell oblong, brown-black, whorls few, broad, somewhat rounded, obsoletely decussately ridged, smooth, linearly grooved at the upper part; aperture small, slightly effused at the base.

Hab.——?

Very simply characterized, but not agreeing with either of the Borneo and Western African species to which it is nearly allied.

Species 76. (Mus. V. d. Busch.)

MELANIA CHARPENTIERI. *Mel. testâ pyramidali-conicâ, subobesâ, intensè nigrâ, nitente, anfractibus octo ad novem, longitudinaliter plicato-costatis, spiraliter densè liratis, liris inter costas plus minus obsoletis, suturis subcanaliculatis; aperturâ ovatâ, basi subeffusâ, columellâ subexcavatâ.*

CHARPENTIER'S MELANIA. Shell pyramidally conical, rather stout, deep-black, shining, whorls eight to nine, longitudinally plicately ribbed, spirally densely ridged, the ridges being more or less obsolete between the ribs, sutures rather channelled; aperture ovate, subeffused at the base, columella slightly excavated.

DUNKER, MS. in Mus. Cuming.

Hab. Rio Branca, Guiana.

Well characterized by its pyramidally conical form, and by the peculiarity of the spiral corded ridges being more or less obsolete on crossing the interstices between the longitudinal ribs.

Species 77. (Mus. V. d. Busch.)

MELANIA BOYKINIANA. *Mel. testâ ovatâ, solidiusculâ, nigrâ, anfractibus paucis, pyramidali-declivibus, deinde abruptè angulatis, spiraliter nodoso-liratis, liris ad angulum tuberculatis; aperturâ oblongo-ovatâ, ad basin subeffusâ.*

BOYKIN'S MELANIA. Shell ovate, rather solid, black, whorls few, pyramidally sloping, then abruptly angled, spirally nodosely ridged, ridges on the angle tubercled; aperture oblong-ovate, somewhat effused at the base.

LEA, Observations, vol. iii. pl. 66. f. 59.

Hab.——?

Distinguished by a pyramidally sloping form and beaded necklace sculpture.

Species 78. (Mus. Cuming.)

MELANIA DECOLLATA. *Mel. testâ subtereti-ovatâ, nigrâ, anfractibus paucis, declivi-convexis, lævibus; aperturâ oblongo-ovatâ, basi subeffusâ.*

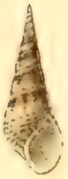
THE DECOLLATED MELANIA. Shell somewhat teretely ovate, black, whorls few, slopingly convex, smooth; aperture oblong-ovate, rather effused at the base.

LAMARCK, Anim. sans vert. vol. viii. p. 431.

Hab. Guinea.

It is by no means certain that this shell is truly Lamarck's *M. decollata*, but as it has been so named with some authority in Mr. Cuming's collection, I give it as such.

Melania Pl. XIII.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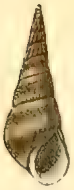
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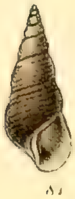
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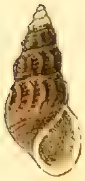
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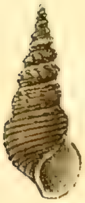
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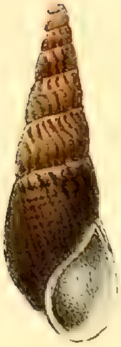
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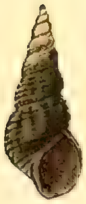
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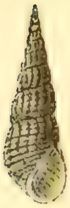
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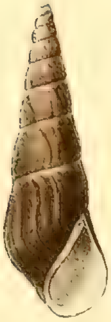
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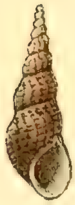
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MELANIA.

Plate XIII.

Species 79. (Mus. Cuming.)

Melania Timorensis. *Mel. testâ acutè subulatâ, tenui, pellucido-olivaceâ, rufo flammulatâ et punctatâ, anfractibus novem ad decem, spiraliter lineari-sulcatis, ultimo supernè plicato; aperturâ subangustè ovatâ.*

The Timor Melania. Shell sharply subulate, thin, transparent-olive, flamed and dotted with red, whorls nine to ten, spirally linearly grooved, the last plicated round the upper part; aperture rather narrowly ovate.

Hab. Timor.

As in the larger *M. Mindoroensis*, the red dots are not in the linear grooves, but on the intermediate ridges.

Fig. 80. (Mus. Cuming.)

A careful comparison of this shell with *M. sobria* proves it to be the young of that species.

Species 81. (Mus. Cuming.)

Melania Venezuelensis. *Mel. testâ subulatâ, olivaceo-viridi, anfractibus septem ad octo, subrotundatis, lævibus, spiraliter lineari-sulcatis, sulcis subdistantibus; aperturâ parvâ, basi recurvo-effusâ.*

The Venezuela Melania. Shell subulate, olive-green, whorls seven to eight, somewhat rounded, smooth, spirally linearly grooved, grooves somewhat distant; aperture small, recurvedly effused at the base.

Dunker, MS. in Mus. Cuming.

Hab. Porto Cabello, Venezuela.

A well-marked, spirally grooved shell, recurvedly effused at the base, approaching to the local typical character of the species constituting Mr. Swainson's genus *Hemisinus*.

Species 82. (Mus. Cuming.)

Melania Australis. *Mel. testâ ovatâ, subventricosâ, lutescente-olivaceâ, anfractibus sex ad septem, longitudinaliter arcuato-plicatis, plicis varicosis, distantibus; aperturâ ovatâ, labro supernè subsinuato.*

The Southern Melania. Shell ovate, somewhat ventricose, yellowish-olive, whorls six to seven, longitudinally arcuately plicated, plaits varicose, distant; aperture ovate, lip slightly sinuated at the upper part.

Hab. Victoria River, North Australia.

Plicated longitudinally in a concentric, arched manner, while the plaits are so distant as to have the appearance of varices.

Species 83. (Mus. V. d. Busch.)

Melania arachnoidea. *Mel. testâ turritâ, olivaceo-viridi, anfractibus decem ad undecim, rotundatis, spiraliter validè crebriliratis, primis paucis longitudinaliter subplicatis, lirâ centrali in carinam conspicuè elevatâ, suturis profundè impressis; aperturâ parvâ.*

The spider Melania. Shell turreted, olive-green, whorls ten to eleven, rounded, spirally strongly closely ridged throughout, the first few longitudinally faintly plicated, with the central ridge prominently developed into the keel, sutures deeply impressed; aperture small.

Anthony, Annals Lyc. Nat. Hist. New York, 1854, p. 95.

Hab. Tennessee, United States (in a small stream emptying itself into the Tennessee river); Anthony.

A slender, deeply-sutured, turriculated shell, encircled throughout with ridges like prominent close-set rings, and in the earlier whorls the central ridge is developed into a conspicuous keel, with slight longitudinal plications showing a curious change of sculpture.

Species 84. (Mus. V. d. Busch.)

Melania perfecta. *Mel. testâ subturriculatâ, nigrâ, anfractibus octo ad novem, primis paucis plano-convexis, lævibus, cæteris rotundatis, spiraliter noduloso-liratis, et obsoletè longitudinaliter plicatis; aperturâ parvâ, basi effusâ.*

The finished Melania. Shell somewhat turriculated, black, whorls eight to nine, the first few flatly convex and smooth, the rest rounded, spirally nodulously ridged, and obsoletely longitudinally plicated; aperture small, effused at the base.

Mousson, Land und Suss. Moll. von Java, p. 116. pl. 22. f. 5.

Hab. Java.

The specimen here figured is smaller and less conspicuously sculptured than that figured by M. Mousson, but it was received from him, and its authenticity may be relied on.

December, 1859.

Species 85. (Mus. Cuming.)

Melania incisa. *Mel. testâ tereti, solidiusculâ, virescente-olivaceâ, rufo undique breviflammatâ, anfractibus novem ad decem, subplanulatis, spiraliter tenuè lineari-sulcatis; aperturâ oblongo-ovatâ.*

The engraved Melania. Shell terete, rather solid, greenish-olive, short-flamed with red throughout, whorls nine to ten, rather flat, spirally finely linearly grooved; aperture oblong-ovate.

Hab. Solomon's Island.

A shell of rather more solid growth than the terete Philippine species to which it has some resemblance, and the whorls are spirally engraved with very regular, rather distant linear grooves.

Species 86. (Mus. V. d. Busch.)

Melania gemmulata. *Mel. testâ subulato-turritâ, nigrâ, anfractibus decem ad undecim, convexis, undique seriatim granatis, ultimo ad basin tenuilirato; aperturâ parvâ.*

The beaded Melania. Shell subulately turreted, black, whorls ten to eleven, convex, serially grained throughout, last whorl finely ridged at the base; aperture small.

Melania pyramis, Busch (not of Benson), Abbild. und Besch. Conch. vol. ii. p. 172. pl. 4. f. 16.

Hab. —— ?

The spiral ridge of this species is cut up into conspicuous grains throughout by an uninterrupted succession of longitudinal grooves.

Species 87. (Mus. Cuming.)

Melania tuberculata. *Mel. testâ subulato-turritâ, olivaceâ, rufo-punctatâ, anfractibus novem ad decem, convexis, undique tuberculato-liratis, liris subdistantibus, anfractibus primis longitudinaliter plicatis; aperturâ parvâ, ovatâ.*

The tubercled Melania. Shell subulately turreted, olive, red-dotted, whorls nine to ten, convex, tubercularly ridged throughout, ridges rather distant, the early whorls longitudinally plicated; aperture small, ovate.

Nerita tuberculata, Müller, Verm. p. 191.

Melanoides fasciolata, Olivier.

Melania fasciolata, Lamarck.

Hab. Egypt.

An extremely variable species, of which it will be necessary to give some varieties.

Species 88. (Mus. Cuming.)

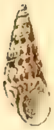
Melania carbonata. *Mel. testâ subulatâ, solidiusculâ, sub epidermide castaneo-nigrâ obscurè rufo-flammatâ, anfractibus decem ad undecim, primis decussatim plicatis, cæteris minutè decussatim striatis; aperturâ ovatâ, ad basin latiusculâ.*

The charcoal Melania. Shell subulate, rather solid, faintly red-flamed beneath a chestnut-black epidermis, whorls ten to eleven, the first decussately plicated, the rest minutely decussately striated; aperture ovate, rather broad at the base.

Hab. —— ?

Apparently a smooth black shell, but on closer inspection it will be found to be obscurely red-flamed beneath the epidermis, whilst the early whorls are finely latticed.

Melania Pl. XIV.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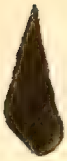
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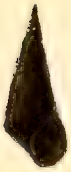
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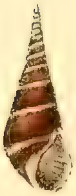
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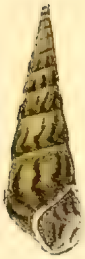
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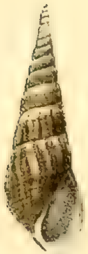
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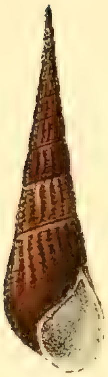
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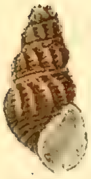
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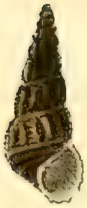
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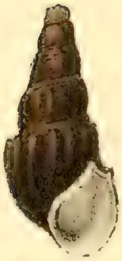
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MELANIA.

Plate XIV.

Species 89. (Mus. Cuming.)

Melania florata. *Mel. testâ subpyramidali-oblongâ, flavidâ, punctis rufo-fuscis quadratis, prope suturas majoribus, nitidè vittatâ, anfractibus quinque ad sex, convexo-planis, lævibus; aperturâ subangustè ovatâ, margine columellari basi subcalloso.*

The flowery Melania. Shell somewhat pyramidally oblong, yellowish, neatly filleted with square red-brown spots, the largest of which are next the sutures, whorls five to six, convexly flattened, smooth; aperture rather narrowly ovate, columellar margin rather callous at the base.

Hinds, Moll. Voy. Sulphur, p. 57. pl. 15. f. 22.

Hab. New Hebrides.

An interesting small species, encircled with necklace bands of red-brown dots, the largest of which are next the sutures.

Species 90. (Mus. Cuming.)

Melania scarabus. *Mel. testâ pyramidato-conicâ, solidiusculâ, intus extusque intensè purpureo-nigrâ, anfractibus decem ad undecim, convexo-planatis, lævibus; aperturâ parviusculâ.*

The beetle Melania. Shell pyramidally conical, rather solid, dark purple-black within and without, whorls ten to eleven, convexly flattened, smooth; aperture rather small.

Hab. ——?

A shining-black species, very like *M. gemella*, figured opposite to it, but there is no indication of a concave depression below the sutures, which affects the contour of the whorls.

Species 91. (Mus. Cuming.)

Melania gemella. *Mel. testâ pyramidali-conicâ, solidiusculâ, intus extusque intensè purpureo-nigrâ, anfractibus decem ad undecim, infra suturas impresso-concavis et minutè plicato-striatis, deinde convexis, lævibus; aperturâ parviusculâ.*

The twin Melania. Shell pyramidally conical, rather solid, dark purple-black within and without, whorls ten to eleven, impressly concave beneath the sutures, and minutely plicately striated, then convex, smooth; aperture rather small.

Melania conica, D'Orbigny (not of Say).

Hab. Cuba; Poey.

Distinguished from the preceding species by a concave depression beneath the sutures, but of the same bright purple-black colour within and without.

Species 92. (Mus. Cuming.)

Melania acus. *Mel. testâ abbreviato-subulatâ, versus apicem acutè acuminatâ, corneâ, tenuiculâ, livido-purpurascente, ad suturas albâ, anfractibus duodecim ad tredecim, subplanulatis, primis longitudinaliter costatis, cæteris lævibus; aperturâ ovatâ, margine columellari calloso, albo.*

The needle Melania. Shell shortly subulate, spire sharply acuminate towards the apex, horny, rather thin, livid-purple, white at the sutures, whorls twelve to thirteen, rather flat, the first longitudinally ribbed, the rest smooth; aperture ovate, columellar margin callous, white.

Lea, Pro. Zool. Soc. 1850, p. 181.

Hab. Island of Guimaras, Philippines (in small streams); Cuming.

A sharply acuminated shell, of light, somewhat horny substance, and livid colouring, longitudinally ribbed towards the apex.

Species 93. (Mus. Cuming.)

Melania Schomburgki. *Mel. testâ pyramidali-subulatâ, solidiusculâ, olivaceo-viridi, anfractuum parte inferiori castaneo-rufo flammatâ, anfractibus decem ad duodecim, declivi-planulatis, infernè angulatis; aperturâ ovatâ, basi effusâ, columellâ calloso-incurvâ.*

Schomburgk's Melania. Shell pyramidally subulate, rather solid, olive-green, flamed with chestnut-brown on the lower part of the whorls, whorls ten to twelve, slopingly flattened, angled at the lower part; aperture ovate, effused at the base, columella callously incurved.

Hanley, MS. in Mus. Cuming.

Hab. ——?

A very distinct type, of which it is to be regretted the habitat is not known. The whorls slope down to an

December, 1859.

angle, and the flamed painting, which is generally on the upper part of the whorls, is in this species at the lower.

Species 94. (Mus. Cuming.)

Melania unisulcata. *Mel. testâ acutè subulatâ, pallidè olivaceâ, rufo-fusco versus apicem minutè punctatâ et undulatâ, anfractibus duodecim, planulatis, lævibus, ad suturas uni-sulcatis; aperturâ subangustâ.*

The one-grooved Melania. Shell sharply subulate, pale-olive, dotted and minutely waved towards the apex with red-brown, whorls twelve, flattened, smooth, one-grooved at the sutures; aperture rather narrow.

Hab. —— ?

A slenderly acuminated shell, with one striking characteristic. A single linear groove is formed on the body of each whorl, in the place of the suture.

Species 95. (Mus. Cuming.)

Melania uniformis. *Mel. testâ acutè aciculari, olivaceâ, purpureo-castaneo obscurè flammatâ et vittatâ, anfractibus tredecim ad quatuordecim, declivi-planulatis, longitudinaliter validè plicatis, spiraliter lineari-sulcatis; aperturâ ovatâ, calloso-incurvâ.*

The uniform Melania. Shell sharply acicular, olive, obscurely flamed and filleted with purple-chestnut, whorls thirteen to fourteen, slopingly flattened, longitudinally strongly plicated, spirally linearly grooved; aperture ovate, callously incurved.

Quoy and Gaimard, Zool. Voy. de l'Astrolabe, vol. iii. p. 154. pl. 56. f. 30–33.

Hab. Celebes.

A slenderly acicular shell, strongly longitudinally plaited, the plaits being cut through at regular intervals by spiral linear grooves. The painting is peculiar in consisting of numerous interrupted fillets, as well as longitudinal flames.

Species 96. (Mus. Cuming.)

Melania Bensoni. *Mel. testâ ovato-turritâ, solidiusculâ, olivaceo-fuscâ, anfractibus quinque ad sex, rotundatis, concentricè plicato-costatis, spiraliter lineari-liratis, liris versus basin plus minusve obsoletis; aperturâ ovatâ, subeffusâ.*

Benson's Melania. Shell ovately turreted, rather solid, olive-brown, whorls five to six, rounded, concentrically plicately ribbed, spirally linearly ridged, ridges more or less obsolete towards the base; aperture ovate, a little effused.

Melania cancellata, Benson (not of Say).

Hab. India.

A rather short stout species, encircled throughout with fine, corded ridges, but characterized chiefly by a succession of concentrically arched, rib-like folds.

Species 97. (Mus. Cuming.)

Melania Fortunei. *Mel. testâ turriculatâ, olivaceo-virente, anfractibus novem ad decem, subangustis, convexis, spiraliter lineari-sulcatis, concentricè validè plicatis, anfractu ultimo ad basin tricarinato, interstitiis excavatis; aperturâ parvâ, subrotundatâ.*

Fortune's Melania. Shell turriculated, olive-green, whorls nine to ten, rather narrow, convex, spirally linearly ridged, concentrically strongly plicated, last whorl three-keeled at the base, interstices excavated; aperture small, somewhat rounded.

Hab. Shanghai, China; Fortune.

Of the same type as the preceding species, with the whorls narrower and more numerous, forming a shell of more slender convolution. The chief distinguishing feature is at the base of the last whorl, which is strongly three-keeled, the interstices between them being quite concave.

Species 98. (Mus. Cuming.)

Melania costellaris. *Mel. testâ pyramidali-turritâ, solidâ, tenebroso-olivaceâ, versus apicem castaneo obscurè flammatâ, anfractibus decem, plano-convexis, primis spiraliter lineari-sulcatis, cæteris gradatim lævibus, supernè concavo-angulatis, deinde validè plicato-costatis; aperturâ ovatâ.*

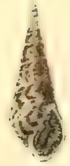
The costellated Melania. Shell pyramidally turreted, solid, dark-olive, obscurely flamed towards the apex with chestnut, whorls ten, flatly convex, the first spirally linearly grooved, the rest gradually smooth, concavely angled at the upper part, then strongly plicately ribbed; aperture ovate.

Lea, Pro. Zool. Soc. 1850, p. 184.

Hab. Islands of Negros, Tanhay, and Siquijor, Philippines (in small streams); Cuming.

Remarkable for the change which the shell undergoes in form and sculpture as it advances in growth. The earlier whorls are simply spirally grooved, these gradually become obsolete, and the whorls push out at the upper part into an angular shelf, and are strongly plicately ribbed.

Melania Pl. XV.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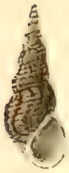
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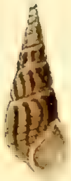
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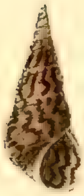
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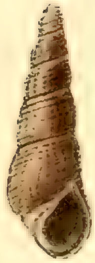
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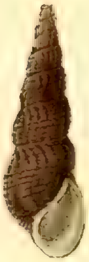
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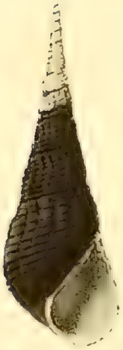
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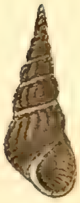
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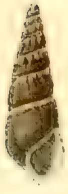
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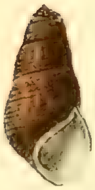
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MELANIA.

Plate XV.

Species 99. (Mus. Cuming.)

Melania floricoma. *Mel. testâ subulatâ, tenui, subpellucidâ, flavicante, castaneo-rufo undique fulguratâ, anfractibus decem ad undecim, plano-convexis, spiraliter sulcato-striatis et crispatis; aperturâ oblongo-ovatâ.*

The flowered Melania. Shell subulate, thin, semitransparent, yellowish, lightning-marked throughout with chestnut-red, whorls ten to eleven, flatly convex, spirally groove-striated, and crisped, aperture oblong-ovate.

Hab. ——?

A transparent yellowish shell, flamed throughout with zigzag red-brown streaks, and encircled with fine linear grooves, the interstices between which are minutely puckered or crisped.

Fig. 100. (Mus. Cuming.)

The shell here figured is the *Melania punctulata* of Grateloup, collected in the neighbourhood of Alexandria, but there is every reason to believe that it is a variety of *M. tuberculata*. All the varieties of this species are black-dotted, but the dots are chiefly conspicuous in the smooth varieties. In the more strongly tubercled varieties the dots are nearly obsolete.

Species 101. (Mus. V. d. Busch.)

Melania Schiedeana. *Mel. testâ subulato-turritâ, flavido-olivaceâ, rufo-fusco flammatâ, anfractibus decem, subrotundatis, lævibus, obscurè spiraliter liratis; aperturâ ovatâ.*

Schiede's Melania. Shell subulately turreted, yellowish-olive, flamed with red-brown, whorls ten, somewhat rounded, smooth, obscurely spirally ridged, aperture ovate.

Philippi, Abbild. und Besch. Conch. vol. i. p. 64. pl. 2. f. 11.

Hab. Suburbs of the city of Mexico (in streams and ditches); Schiede.

A semitransparent smooth shell, of light substance, bedaubed longitudinally with reddish streaks.

Fig. 102. (Mus. V. d. Busch.)

A variety of *M. pyramis*, described and figured at Pl. 10, Fig. 51, in which the whorls are rounded and the shell less elongately convoluted.

Species 103. (Mus. V. d. Busch.)

Melania Judaica. *Mel. testâ subulatâ, solidâ, subangustâ, castaneo-fuscâ, anfractibus convexis, undique densè irregulariter liratis; aperturâ parvâ, margine columellari calloso-incurvo.*

The Jewish Melania. Shell subulate, solid, rather narrow, chestnut-brown, whorls convex, closely irregularly ridged throughout, aperture small, columellar margin callously incurved.

Roth, Malak. Blitt. vol. ii. f. 53. pl. 2. f. 1–3.

Hab. ——?

A narrow shell, of solid growth, said to be, when in fine condition, of a rich brown colour throughout.

Species 104. (Mus. Cuming.)

Melania Layardi. *Mel. testâ elongato-turritâ, solidiusculâ, intensè olivaceâ, purpureo-fusco sparsim punctatâ, anfractibus decem ad undecim, rotundatis, longitudinaliter plicatis, spiraliter densè liratis, suturis subcanaliculatis; aperturâ parvâ.*

Layard's Melania. Shell elongately turreted, rather solid, dark-olive, sparingly dotted with purple-brown, whorls ten to eleven, rounded, longitudinally plicated, spirally closely ridged, sutures somewhat channelled, aperture small.

Dohrn, Pro. Zool. Soc. 1858, p. 135.

Hab. Ceylon; E. L. Layard.

This species very much resembles Mr. Lea's *M. turriculus*, of the Philippine Islands, in colouring, but is of a more slenderly turreted form.

Species 105. (Mus. Cuming.)

Melania phlebotomum. *Mel. testâ aciculari-subulatâ, apice perattenuatâ, nigricante-olivaceâ, anfractibus decem ad duodecim, longitudinaliter plicatis, spiraliter validè liratis, interstitiis subexcavatis, anfractu ultimo* *ventricoso; aperturâ ovatâ, margine columellari calloso-incurvo.*

THE LANCET MELANIA. Shell acicularly subulate, very attenuated at the apex, blackish-olive, whorls ten to twelve, longitudinally plicated, spirally strongly ridged, interstices somewhat excavated, last whorl ventricose; aperture ovate, columellar margin callously incurved.

Hab. West Africa.

Chiefly distinguished by the ventricose inflation of the last whorl, and remarkable attenuation of the early ones.

Species 106. (Mus. Cuming.)

MELANIA TAMSII. *Mel. testâ subulato-turritâ, livido-olivaceâ, rufo-fusco interdum strigatâ, suturis et columellâ albis, anfractibus octo ad novem, subrotundatis, longitudinaliter plicatis et spiraliter tenuiliratis; aperturâ parvâ.*

TAMS' MELANIA. Shell subulately turreted, livid-olive, sometimes streaked with red-brown, sutures and columella white, whorls eight to nine, somewhat rounded, longitudinally plicated, and spirally finely ridged; aperture small.

DUNKER, Zeitschrift für Malak. 1845, p. 165. Ind. Moll. Guin. p. 9. pl. 2. f. 9, 10.

Hab. Island of St. Anthon, Cape de Verds.

Very closely allied to the Egyptian *M. tuberculata*, of the same local type, if not a variety of that species.

Species 107. (Mus. V. d. Busch.)

MELANIA COMMA. *Mel. testâ subturriculatâ, olivaceâ, ad suturas flavidâ, nitente, anfractibus octo ad novem, primis longitudinaliter plicato-costatis, costis subdistantibus, cæteris lævibus; aperturâ parvâ, basi effusâ.*

THE COMMA MELANIA. Shell somewhat turriculated, olive, yellowish at the sutures, glossy, whorls eight to nine, the first longitudinally plicately ribbed, ribs rather distant, the rest smooth, aperture small, effused at the base.

CONRAD, New Fresh-water Shells, p. 53. pl. 8. f. 7.

Hab. Alabama, United States.

The early whorls of this species, as in many others, are longitudinally ribbed, but the ribs are stronger and more distant from each other than usual.

Species 108. (Mus. Cuming.)

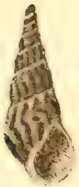
MELANIA MORCHII. *Mel. testâ ovatâ, solidiusculâ, ustulato-fuscâ, anfractibus perpaucis, declivi-convexis, undique densè spiraliter grano-striatis; aperturâ ovatâ, ad basin subeffusâ.*

MORCH'S MELANIA. Shell ovate, rather solid, burnt-brown, whorls very few, slopingly convex, closely spirally grain-striated throughout; aperture ovate, a little effused at the base.

BECK, MS. in Mus. Cuming.

Hab. —— ?

A short stout species, finely granulated throughout.



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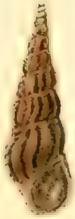

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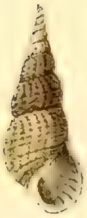

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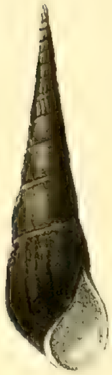

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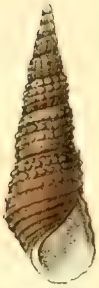

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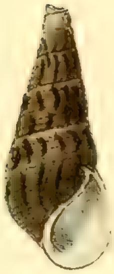

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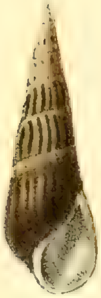

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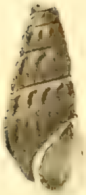

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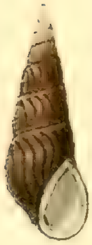

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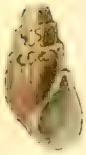

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MELANIA.

PLATE XVI.

Species 109. (Fig. *a*, *b*, Mus. Cuming.)

MELANIA VIRGULATA. *Mel. turritâ, apice acutâ, luteo-rubente, flammis castaneis longitudinalibus vividè pictâ, anfractibus decem ad undecim, rotundatis, concentricè nodoso-plicatis, spiraliter tenuiliratis ; aperturâ parvâ.*

THE STRIPED MELANIA. Shell turreted, sharp at the apex, yellowish-red, vividly painted with longitudinal chestnut flames, whorls ten to eleven, rounded, concentrically nodosely plicated, spirally finely ridged ; aperture small.

FÉRUSSAC, Deshayes, Anim. sans vert. vol. viii. p. 437. Quoy and Gaimard, Zool. Voy. de l'Astrolabe, vol. iii. p. 141. pl. 56. f. 1 to 4.

Hab. Ceylon ; E. L. Layard. Island of St. Anthon, Cape de Verds.

Notwithstanding the difference of habitat, it is not improbable that this species may prove to be a variety of the Egyptian *M. tuberculata*.

Fig. 110. (Mus. V. d. Busch.)

We figure this shell from the collection of Dr. Von dem Busch, as the most typical form of the old Egyptian *M. tuberculata*, Müller (*M. fasciolata*, Olivier).

Species 111. (Mus. Cuming.)

MELANIA PALIMPSESTOS. *Mel. testâ acutè subulatâ, nigrâ, anfractibus duodecim ad tredecim, plano-convexis, supernè impressis, margine funiculatis, anfractibus primis paucis longitudinaliter costatis, costis rectis, interstitiis excavatis ; aperturâ ovatâ, margine columellari latè calloso-incurvo.*

THE SLATE-PENCIL MELANIA. Shell sharply subulate, black, whorls twelve to thirteen, flatly convex, impressed at the upper part, corded at the edge, the first few whorls longitudinally ribbed, ribs straight, interstices excavated ; aperture ovate, columellar margin broadly callously incurved.

Hab. —— ?

A small, sharply acuminated shell, belonging to the same type as *M. blatta* and *anthracina*.

Species 112. (Mus. V. d. Busch.)

MELANIA MONILIFERA. *Mel. testâ subulatâ, solidiusculâ, olivaceâ, anfractibus novem ad decem, declivi-planatis, granis tubercularibus amplis undique seriatim cinctis, anfractûs ultimi liris basalibus haud granatis ; aperturâ ovatâ, margine columellari calloso-incurvo.*

THE NECKLACE MELANIA. Shell subulate, rather solid, olive, whorls nine to ten, slopingly flattened, encircled throughout with rows of large tubercular grains, basal ridges of the last whorl not grained ; aperture ovate, columellar margin callously incurved.

VON DEM BUSCH, Malac. Blitt. 1858, vol. v. p. 34.

Hab. Solomon's Island.

Encircled throughout with necklaces of large bead-like grains, except towards the base of the last whorl where the ridges are beadless.

Species 113. (Fig. *a*, *b*, Mus. Cuming.)

MELANIA PERPINGUIS. *Mel. testâ turriculatâ, solidiusculâ, olivaceâ, purpureo-fusco promiscuè breviflammatâ et punctatâ, anfractibus novem, convexis, spiraliter lineari-sulcatis ; aperturâ ovatâ.*

THE STOUT MELANIA. Shell turriculated, rather solid, olive, promiscuously short-flamed and dotted with purple-brown, whorls nine, convex, spirally linearly grooved ; aperture ovate.

HINDS, Moll. Voy. Sulphur, p. 56. pl. 15. f. 2.

Melania turriculus, Lea.

Hab. Calanang, Province of Baie, Island of Luzon, Philippines (in small rivers) ; Cuming.

A comparison of the actual types of Mr. Hinds' *M. perpinguis* and Mr. Lea's *M. turriculus* has satisfied me that they are the same species.

Species 114. (Mus. Cuming.)

MELANIA PERRIMOSA. *Mel. testâ subulatâ, olivaceâ, albidâ, rufo sparsim punctatâ, anfractibus decem ad undecim, primis obliquè tenuicostatis, cæteris lævibus ; aperturâ ovatâ, margine columellari calloso.*

THE CRACKED MELANIA. Shell subulate, olive, towards the apex white, sparsely dotted with red, whorls ten to eleven, the first obliquely finely ribbed, the rest smooth ; aperture ovate, columellar margin callous.

Hab. —— ?

The middle portion of this shell has a peculiar cracked appearance, from the superficial ribs being denuded of their epidermis.

Species 115. (Mus. Cuming.)

MELANIA GOULDIANA. *Mel. testâ turriculatâ, solidiusculâ, intensè olivaceâ, infra suturas nigro-purpureo obscurè maculatâ, anfractibus novem ad decem, primis longitudinaliter plicatis et spiraliter lineari-sulcatis, cæteris lævibus, sulcis gradatim obsoletis; aperturâ parviusculâ.*

GOULD'S MELANIA. Shell turriculated, rather solid, dark-olive, obscurely spotted beneath the sutures with blackish-purple, whorls nine to ten, the first longitudinally plicated and spirally linearly grooved, the rest smooth, with the grooves gradually obsolete; aperture rather small.

Hab. New Caledonia.

A solid turriculated species, very closely allied in detail of character, though not in form, to *M. perpinguis.*

Species 116. (Mus. Cuming.)

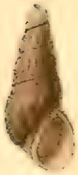
MELANIA IMPURA. *Mel. testâ ovatâ, subcylindraceâ, solidâ, olivaceo-viridi, anfractibus paucis, declivi-planulatis, lævibus, supernè angulatis, suturis valdè impressis; aperturâ ovatâ, basi subeffusâ.*

THE IMPURE MELANIA. Shell ovate, subcylindrical, solid, olive-green, whorls few, slopingly flattened, smooth, angular in the upper part, sutures very much impressed; aperture ovate, a little effused at the base.

LEA, Pro. Zool. Soc. 1850, p. 182.

Hab. Naza, Province of South Camarines, Island of Luzon, Philippines; Cuming.

A rather short, solid species, chiefly distinguished by a strongly-marked spiral angular shelf on the sutural margins of the whorls.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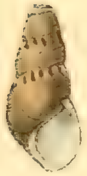
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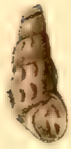
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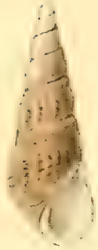
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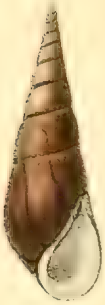
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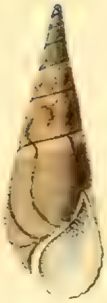
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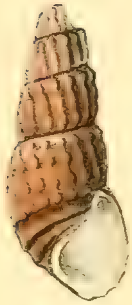
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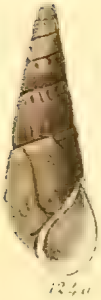
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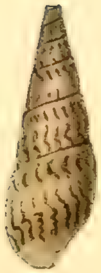
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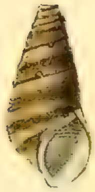
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MELANIA.

Plate XVII.

Species 117. (Mus. V. d. Busch.)

Melania calculus. *Mel. testâ turriculatâ, solidiusculâ, flavido-olivaceâ, anfractibus paucis, convexis, undique superficialiter sulcatis, supernè interdum sparsim minutè plicatis; aperturâ parviusculâ, ad basin subcanaliculato-effusâ.*

The pebble Melania. Shell turriculated, rather solid, yellowish-olive, whorls few, convex, superficially grooved throughout, sometimes sparsely minutely puckered at the upper part; aperture rather small, somewhat channel-effused at the base.

Hab. North China.

A shell of yellowish-olive colour, finely superficially grooved throughout with sometimes a few small puckers on the sutural margin. The figures of this and the two following species are a little enlarged.

Species 118. (Mus. Cuming.)

Melania incisa. *Mel. testâ turriculatâ, tenuiculâ, flavido-olivaceâ, fasciâ castaneâ angustâ circa basin, anfractibus septem ad octo, convexis, spiraliter lineari-incisis, lineis in anfractu ultimo interdum gradatim obsoletis; aperturâ parviusculâ, ovatâ.*

The cut Melania. Shell turriculated, rather thin, yellowish-olive, with a narrow chestnut band around the base, whorls seven to eight, convex, spirally linearly engraved, the engraved lines sometimes becoming gradually obsolete on the last whorl; aperture rather small, ovate.

Hab. Taheite.

A small species, enlarged to twice the natural size in our figure, encircled throughout with fine linear grooves, and having a characteristic dark band at the base.

Species 119. (Mus. Cuming.)

Melania fontinalis. *Mel. testâ turriculatâ, tenebroso-olivaceâ, purpureo-fusco interruptè flammatâ, fasciâ purpureo-fuscâ circa basin, anfractibus paucis, spiraliter densè lineari-sulcatis, supernè declivi-impressis et obscurè minutè plicatis; aperturâ parvâ.*

The well Melania. Shell turriculated, dingy-olive, interruptedly flamed with purple-brown, with a band of the same colour round the base, whorls few, spirally, closely linearly grooved, slopingly impressed and obscurely minutely puckered round the upper part; aperture small.

Philippi, Abbild. und Besch. Conch. vol. iii. p. 58. pl. 5. f. 7.

Hab. Pulo Penang. New Caledonia.

A small species, magnified in our figure to twice the natural size, well distinguished by its sparsely flamed painting of purple-brown.

Species 120. (Mus. Cuming.)

Melania crepidinata. *Mel. testâ subulatâ, solidiusculâ, virente-olivaceâ, rufo-fusco sparsim flammulatâ, anfractibus octo ad novem, convexis, spiraliter lineari-incisis, interstitiis crispatis, supernè ad marginem obeso-funiculatis, suturis subprofundè impressis; aperturâ ovatâ, basi subeffusâ, margine columellari calloso-reflexo.*

The edged Melania. Shell subulate, rather solid, greenish-olive, sparsely flamed with red-brown, whorls eight to nine, convex, spirally linearly engraved, interstices crisped, stoutly corded round the upper edge, sutures rather deeply impressed; aperture ovate, a little effused at the base, columellar margin callously reflected.

Hab. Java?

A well-marked species, supposed to be from Java, but partaking rather of the Brazilian *Hemisinus* type.

Species 121. (Mus. Cuming.)

Melania tristis. *Mel. testâ subulatâ, basin versus subventricosâ, olivaceâ, anfractibus octo ad novem, plano-convexis, lævibus; aperturâ abbreviato-ovatâ, margine columellari calloso-incurvo.*

The sad Melania. Shell subulate, rather ventricose towards the base, olive, whorls eight to nine, flatly convex, smooth, aperture shortly ovate, columellar margin callously incurved.

Hab. Java.

A shell of extremely simple character, neither striated nor plicately ribbed in any part.

December, 1859.

Species 122. (Mus. Cuming.)

Melania forulata. *Mel. testâ subulatâ, ventricosiusculâ, virente-olivaceâ, subpellucidâ, rufo-fusco sparsim flammatâ, anfractibus novem ad decem, spiraliter remotè lineari-sulcatis, primis obscurè plicatis, cæteris lævibus; aperturâ abbreviato-ovatâ, margine columellari calloso-incurvo.*

The furrowed Melania. Shell subulate, rather ventricose, greenish-olive, somewhat transparent, sparsely flamed with red-brown, whorls nine to ten, spirally distantly linearly grooved, the first whorls obscurely plicated, the rest smooth; aperture shortly ovate, columellar margin callously incurved.

Hab. ——?

Characterized by a mode of spiral grooving in which the grooves are unusually distant from each other, and the painting consists only of a few peculiarly straggling dark-red flames.

Species 123. (Mus. Van Heukelom.)

Melania Heukelomiana. *Mel. testâ subangustè turritâ, solidiusculâ, olivaceo-fuscâ, anfractibus plano-convexis, longitudinaliter validè costatis, costis supernè nodulatis, suturis impressis, costis versus aperturam gradatim evanidis, liris spiralibus obesis decussatim nodatis; aperturâ ovatâ, margine columellari calloso-incurvo.*

Heukelom's Melania. Shell somewhat narrowly turreted, rather solid, olive-brown, whorls flatly convex, longitudinally strongly ribbed, ribs noduled at the upper extremity, with the sutures impressed, ribs gradually fading towards the aperture, where they are decussately noduled with stout spiral ridges; aperture ovate, columellar margin callously incurved.

Hab. ——?

Neither Mr. Cuming's nor Dr. Von dem Busch's collection has any *Melania* in it with which the above interesting species can be identified. It has been kindly contributed by M. Van Heukelom, an assiduous collector, of Amsterdam, after whom I avail myself of the pleasure of naming it.

Species 124. (Fig. *a*, *b*, Mus. Cuming.)

Melania biflammata. *Mel. testâ subulatâ, virente-olivaceâ, rufo-fusco biseriatim flammatâ, anfractibus plano-convexis, lævibus, spiraliter subconfertim lineari-incisis; aperturâ ovatâ.*

The double-flamed Melania. Shell subulate, greenish-olive, encircled with two rows of red-brown flames, whorls flatly convex, smooth, spirally rather closely linearly engraved; aperture ovate.

Hab. ——?

Of somewhat transparent substance, encircled throughout with two neat rows of red-brown flames.

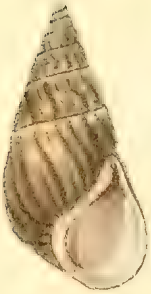
Species 125. (Mus. Cuming.)

Melania Japonica. *Mel. testâ ovatâ, solidiusculâ, olivaceâ, cinereo-purpureo pallidè bifasciatâ, anfractibus sex ad septem, declivi-convexis, spiraliter densè elevato-striatis; aperturâ subangustâ, ad basin subproductâ.*

The Japan Melania. Shell ovate, rather solid, olive, encircled with two faint ash-purple bands, whorls six to seven, slopingly convex, spirally densely elevately striated; aperture rather narrow, slightly produced at the base.

Hab. Japan.

A solid, fusiformly conical shell, closely ridge-striated throughout, and encircled with two ash-purple bands, which are rather conspicuous in the interior.



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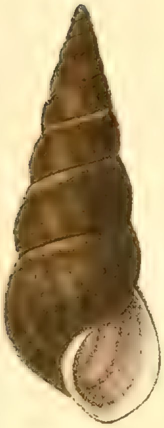

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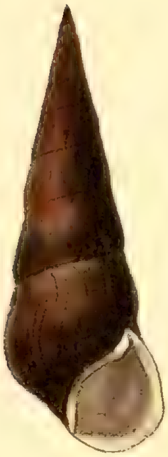

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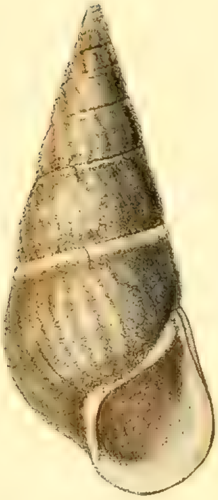

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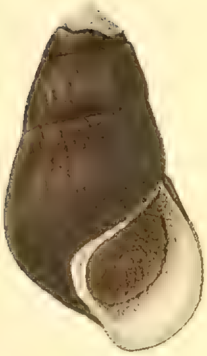

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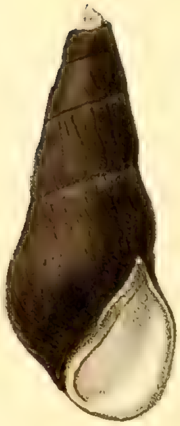

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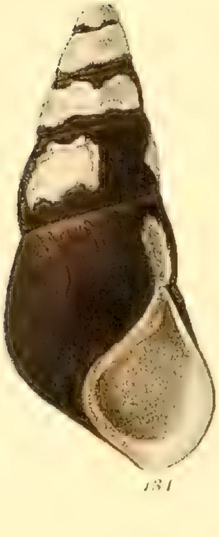

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Vincent Brooks, Imp.

MELANIA.

Plate XVIII.

Species 126. (Fig. *a* and *b*, Mus. Cuming.)

Melania lævissima. *Mel. testâ pyramidali-oblongâ, solidissimâ, crassâ, lævi, ad basin obliquè ventricosâ, cærulescente-cinereâ, purpureo variè strigatâ, epidermide tenui olivaceâ partim indutâ, anfractibus novem ad decem, declivi-convexis; aperturâ ovatâ, columellâ supernè callosâ, infernè calloso-reflexâ.*

The very smooth Melania. Shell pyramidally oblong, very solid, thick, smooth, obliquely ventricose at the base, bluish-ash, variously streaked with purple, partially covered with a thin olive epidermis, whorls nine to ten, slopingly convex; aperture ovate, columella callous at the upper part, callously reflected at the lower.

Sowerby, Zool. Journ. vol. i. p. 60. pl. 5. f. 5.
Pachychilus lævissimus, Lea.

Hab. Chiapa, Mexico.

A species of solid growth, thick, and somewhat obliquely ventricose or gibbous at the base, well characterized by a diffuse painting of purple streaks on a bluish-ash ground. It may be regarded as the type of a good sectional division, forming Mr. Lea's genus *Pachychilus.*

Species 127. (Mus. Cuming.)

Melania Largillierti. *Mel. testâ subulato-turritâ, solidâ, lævigatâ, olivaceâ, purpureo-fusco obscurè strigatâ, anfractibus novem ad decem, subrotundatis, sub lente minutissimè decussatim striatis; aperturâ ovatâ, parviusculâ, columellâ infernè calloso-reflexâ.*

Largilliert's Melania. Shell subulately turreted, solid, smooth, olive, obscurely streaked with purple-brown, whorls nine to ten, somewhat rounded, beneath the lens very minutely decussately striated; aperture ovate, rather small, columella callously reflected at the lower part.

Philippi, Abbild. und Besch. Conch. vol. i. p. 62. pl. 2. f. 10.

Hab. Guatemala; Skinner.

Chiefly distinguished by the roundness of the whorls, and by their more turreted plan of convolution.

Species 128. (Mus. Cuming.)

Melania Pirenoides. *Mel. testâ pyramidali-subulatâ, acutâ, lævigatâ, solidâ, fusco-olivaceâ, anfractibus duodecim ad tredecim, declivi-planatis, suturis subimpressis; aperturâ parvâ, columellâ callosâ, subexcavatâ, ad basin sublacunatâ.*

The Pirena-like Melania. Shell pyramidally subulate, sharp, smooth, solid, brownish-olive, whorls twelve to thirteen, slopingly flattened, sutures rather impressed; aperture small, columella callous, somewhat excavated, slightly channelled at the base.

Hab. Fernando Po; Fraser.

A species partaking curiously of the characteristics of the *Pirena*, *Pachychilus*, and *Vibex* divisions of the family. With the compact pyramidal coiling of the first, it has the smoothness and colouring of the second, and the columellar basal channelling of the third.

Species 129. (Mus. Cuming.)

Melania Mexicana. *Mel. testâ ovatâ, ad basin subgibbosâ et obliquè productâ, solidiusculâ, olivaceo-nigrâ, anfractibus paucis, longitudinaliter subirregulariter plicato-striatis, suturis subimpressis; aperturâ oblongo-ovatâ, columellâ excavatâ, labro columellari calloso-reflexo.*

The Mexican Melania. Shell ovate, somewhat gibbous and obliquely produced at the base, rather solid, olive-black, whorls few, longitudinally somewhat irregularly plicately striated, sutures rather impressed; aperture oblong-ovate, columella excavated, columellar lip callously reflected.

Hab. Mexico.

A short, bold species, produced at the base, but not possessing the characteristic features of the *Pachychilus* division exemplified by *M. lævissima.*

Species 130. (Mus. Cuming.)

Melania baculus. *Mel. testâ subulatâ, versus basin obesâ, lævigatâ, olivaceo-nigrâ, anfractibus septem ad octo, supernè latè concavo-impressis, deinde convexis; aperturâ ovatâ, ad basin subtruncatâ, columellâ calloso-excavatâ.*

The club Melania. Shell subulate, stout towards the base, smooth, olive-black, whorls seven to eight, broadly concavely impressed round the upper part,

January, 1860.

then convex; aperture ovate, somewhat truncated at the base, columella callously excavated.

Hab. ——?

This fine species has the same typical truncated base as *M. blatta*, but there is no indication of the plicated longitudinal ribs of that species.

Species 131. (Mus. V. d. Busch.)

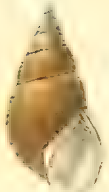
MELANIA PANUCULA. *Mel. testâ oblongo-conicâ, subcylindraceâ, solidâ, lævigatâ, anfractibus sex ad septem, sub lente minutissimè decussatim striatis, declivi-convexis; aperturâ ovatâ, columellâ calloso-excavatâ.*

THE WOOF MELANIA. Shell oblong-conical, subcylindrical, solid, smooth, whorls six to seven, beneath the lens very minutely decussately striated, slopingly convex; aperture ovate, columella callously excavated.

MORELET, Test. Nov. Amer. Cent. part 2. p. 23.

Hab. Guatemala.

Of a more oblong, cylindrical form than *M. lævissima*, and darker olive-colour.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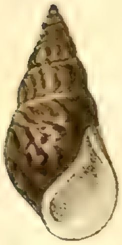
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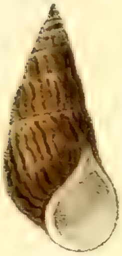
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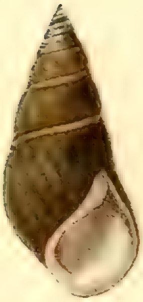
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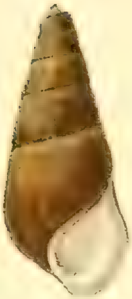
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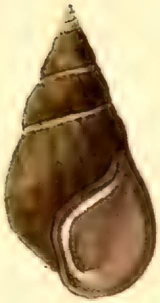
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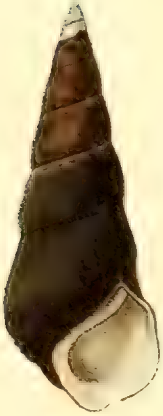
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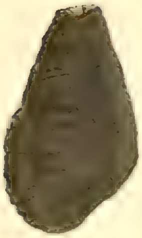
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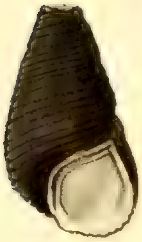
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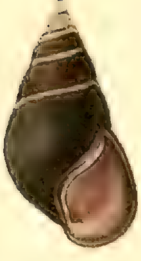
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MELANIA.

PLATE XIX.

Species 132. (Mus. Cuming.)

Melania spadicea. *Mel. testâ fusiformi-conicâ, solidiusculâ, spadiceâ, anfractibus sex ad septem, declivi-convexis, undique regulariter densè liratis; aperturâ oblongo-ovatâ, ad basin effusâ, labro columellari tenuè reflexo.*

The bay Melania. Shell fusiformly conical, rather solid, bay-coloured, whorls six to seven, slopingly convex, regularly closely ridged throughout; aperture oblong-ovate, effused at the base, columellar lip thinly reflected.

Hab. —— ?

Of a light-bay colour, strongly characterized throughout by a regular sculpture of fine encircling ridges.

Species 133. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania Sallei. *Mel. testâ oblongo-conicâ, subcylindraceâ, versus basin gibbosâ, solidâ, olivaceâ, purpureo profusè strigatâ et maculatâ, anfractibus sex ad septem, declivi-convexis; aperturâ ovatâ, ad basin effusâ, columellâ supernè callosâ, infernè calloso-reflexâ.*

Sallé's Melania. Shell oblong-conical, somewhat cylindrical, gibbous towards the base, solid, olive, profusely streaked and spotted with purple, whorls six to seven, slopingly convex; aperture ovate, somewhat effused at the base, columella callous at the upper part, callously reflected at the lower.

Hab. Central America.

A prettily painted species of the *Pachychilus* type, closely allied to *M. lævissima*, but uniformly smaller. Of the three specimens figured in our Plate, the first is from Mexico, the second from Florida, and the third was collected by the enterprising traveller and naturalist M. Sallé, at La Guayra, Venezuela.

Species 134. (Mus. Cuming.)

Melania fœnaria. *Mel. testâ subpyramidali-oblongâ, solidâ, luteo-olivaceâ, rufo-ferrugineo unizonatâ, anfractibus septem ad octo, declivi-planatis, sub lente undique densè minutissimè granulatis, anfractu ultimo medio obsoletè angulato; aperturâ ovatâ, parviusculâ, ad basin effusâ, labro fusco-marginato.*

The hay-coloured Melania. Shell somewhat pyramidally oblong, solid, yellowish-olive, encircled with a zone of reddish-rust, whorls seven to eight, slopingly flattened, beneath the lens everywhere densely very minutely granuled, last whorl obsoletely angled in the middle; aperture ovate, rather small, effused at the base, lip brown-edged.

Hab. —— ?

Nothing is known of the habitat of this well-defined species. The surface is densely shagreened throughout, and the lip is characteristically edged with brown.

Species 135. (Fig. *a*, *b*, Mus. Cuming.)

Melania corvina. *Mel. testâ ovatâ, subventricosâ, olivaceâ aut purpureo-castaneâ, interdum obsoletè maculatâ, suturis albidis; aperturâ vividè purpureo-castaneâ; anfractibus septem, rapidè accrescentibus, convexis, sub lente minutè striatis, anfractu ultimo anticè ascendente; columellâ supernè callosâ, infernè calloso-incurvâ.*

The crow Melania. Shell ovate, rather ventricose, olive or purplish-chestnut, sometimes mottled, sutures whitish; aperture bright purple-chestnut; whorls seven, increasing rapidly, convex, beneath the lens minutely striated, last whorl ascending in front; columella callous at the upper part, callously incurved at the lower.

Morelet, Test. Nov. Amer. Cent. part 1. p. 26.

Hab. Vera Paz, Central America.

A species of short, ventricose growth, well distinguished by the rich purple-chestnut colouring of the aperture, which is conspicuous also along the edge of the columellar callosity.

Species 136. (Mus. Cuming.)

Melania lacunata. *Mel. testâ tereti-subulatâ, solidâ, nigricante-olivaceâ, obsoletè strigatâ, anfractibus novem ad decem, convexis, spiraliter lirato-striatis, hic illic obscurè plicato-varicosis; aperturâ parviusculâ, columellâ calloso-incurvâ, ad basin lacunatâ.*

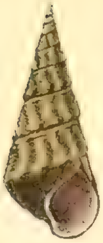
The spouted Melania. Shell teretely subulate, solid, blackish-olive, obsoletely streaked, whorls nine to ten, convex, spirally ridge-striated, here and there obscurely plicately varicose; aperture rather small, columella callously incurved, slightly spouted at the base.

Hab. —— ?

Resembling *M. Largillierti*, but more terete, and ridge-striated, whilst the aperture is more spouted at the base.

Fig. 137. (Mus. V. d. Busch.)

This very interesting species belongs more properly to the *Vibex* division of the genus, and is described, along with its allies, from a more characteristic example in Mr. Cuming's collection, at Plate XXX.



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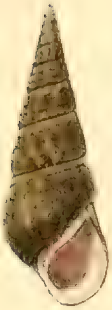

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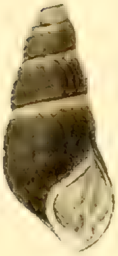

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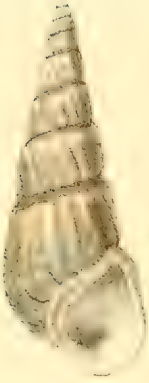

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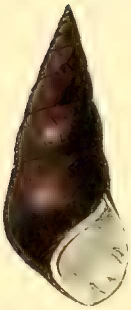

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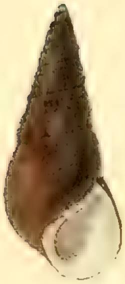

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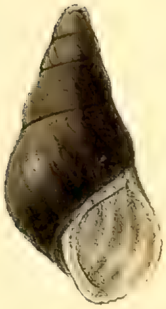

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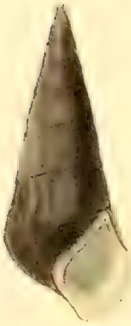

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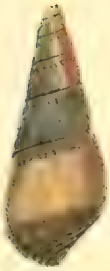

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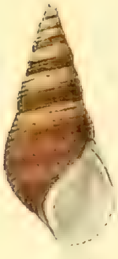

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MELANIA.

Plate XX.

Species 138. (Fig. *a*, *b*, Mus. Cuming.)

Melania murrea. *Mel. testâ pyramidali-turritâ, solidiusculâ, olivaceâ, livido-virente tinctâ et maculatâ, anfractibus novem ad decem, declivi-planatis, infernè angulatis, supernè ad marginem funiculatis anfractu ultimo circa columellam lirato; aperturâ ovatâ, columellâ calloso-excavatâ.*

The porcelain Melania. Shell pyramidally turreted, rather solid, olive, stained and blotched with livid-green, whorls nine to ten, slopingly flattened, angled at the lower part, corded round the upper edge, last whorl ridged round the columella; aperture ovate, columella callously excavated.

Hab. ——?

A very characteristic species of the Central American type, of a neatly defined pyramid-like form, richly painted with green.

Species 139. (Mus. V. d. Busch.)

Melania Liebmanni. *Mel. testâ cylindraceo-turritâ, sordidè olivaceâ, anfractibus paucis, plano-convexis, sub lente minutissimè densè striatis, ad suturas submarginatis; aperturâ ovatâ, ad basin effusâ, columellâ calloso-excavatâ.*

Liebmann's Melania. Shell cylindrically turreted, dull-olive, whorls few, flatly convex, very minutely closely striated beneath the lens, slightly margined at the sutures; aperture ovate, effused at the base, columella callously excavated.

Philippi, Abbild. und Besch. Conch. vol. iii. p. 58. pl. 5. f. 8.

Hab. Mexico.

Of very simple character, and not apparently mature, or a callosity would probably be formed at the upper part of the columella.

Species 140. (Mus. Cuming.)

Melania agrestis. *Mel. testâ subulato-turritâ, solidâ, rugosâ, albidâ, cinereo-cæruleo strigato-tinctâ, epidermide olivaceâ partim indutâ, anfractibus novem ad decem, supernè rudè angulatis, deinde planatis; aperturâ ovatâ, columellâ callosâ et excavatâ.*

The wild Melania. Shell subulately turreted, solid, rough, whitish, stained with streaks of ash-blue, partially covered with an olive epidermis, whorls nine to ten, rudely angled at the upper part, then flattened; aperture ovate, columella callous and excavated.

Hab. Borneo.

Of a much ruder growth than the Central American species of the same type, but similar in respect of the aperture and columella.

Species 141. (Mus. V. d. Busch.)

Melania intermedia. *Mel. testâ turritâ, castaneo-olivaceâ, anfractibus octo ad novem, convexis, lævibus; aperturâ latè ovatâ, parviusculâ, columellâ calloso-excavatâ.*

The intermediate Melania. Shell turreted, chestnut-olive, whorls eight to nine, convex, smooth; aperture broadly ovate, rather small, columella callously excavated.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. i. p. 160.

Hab. Lake Nicaragua.

Closely allied to *M. Largillierti* but of smaller proportions, and composed of fewer whorls.

Species 142. (Mus. Cuming.)

Melania Guineensis. *Mel. testâ subulatâ, solidiusculâ, olivaceo-nigrâ, lævigatâ, nitente, anfractibus novem, declivi-planatis, supernè subimpressis; aperturâ ovatâ, ad basin effusâ.*

The Guinea Melania. Shell subulate, rather solid, olive-black, smooth, shining, whorls nine, slopingly flattened, rather impressed at the upper part; aperture ovate, effused at the base.

Hab. Coast of Guinea.

Of very simple character, destitute of any striated or shagreened sculpture.

Species 143. (Mus. V. d. Busch.)

Melania siphonata. *Mel. testâ fusiformi-conicâ, solidâ, olivaceo-nigrâ, anfractibus sex ad septem, spiraliter densè lirato-striatis, superne declivibus, deinde gibboso-angulatis; aperturâ ovatâ, ad basin productâ et effusâ, labro columellari tenuè reflexo.*

January, 1860.

THE SIPHONED MELANIA. Shell fusiformly conical, solid, olive-black, whorls six to seven, spirally closely ridge-striated, slanting at the upper part, then gibbously angled; aperture ovate, produced and effused at the base, columellar lip thinly reflected.

Hab. —— ?

A shell of very peculiar fusiform growth, attenuately produced at the base, with the whorls bulging out at the periphery into an obtuse angle.

Species 144. (Fig. *a*, Mus. V. d. Busch, Fig. *b*, Mus. Cuming.)

MELANIA BALTEATA. *Mel. testâ pyramidali-subulatâ, virescente-olivaceâ, fasciâ unicâ castaneâ medio cingulatâ, anfractibus novem, declivi-planatis, lævibus, supernè spiraliter sulcato-striatis; aperturâ ovatâ, ad basin subproductâ et effusâ, columellâ contorto-arcuatâ.*

THE BELTED MELANIA. Shell pyramidally subulate, greenish-olive, encircled round the middle with a single chestnut band, whorls nine, slopingly flattened, smooth, spirally groove-striated at the upper part; aperture ovate, somewhat produced and effused at the base, columella twistedly arched.

Hab. —— ?

This appears to me to be a very distinct and well-defined species.

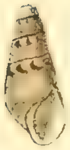
Species 145. (Mus. Cuming.)

MELANIA LUMBRICUS. *Mel. testâ oblongo-conicâ, subturriculatâ, olivaceo-spadiceâ, infra suturas pallidâ, anfractibus septem, plano-convexis, undique densè spiraliter striato-liratis; aperturâ ovatâ, ad basin effusâ.*

THE GRUB MELANIA. Shell oblong-conical, somewhat turriculated, olive-bay, pale beneath the sutures, whorls seven, flatly convex, spirally closely striately ridged throughout; aperture ovate, effused at the base.

Hab. Pará; Brazil.

Striately ridged and coloured after the manner of *M. spadicea*, but the colour is uniformly paler on the upper half of each whorl, and the shell is more turriculated.



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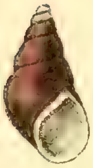

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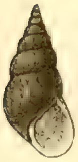

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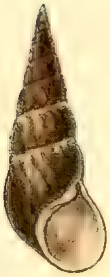

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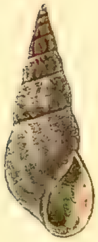

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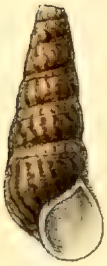

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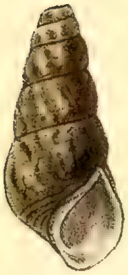

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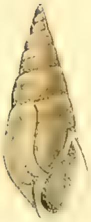

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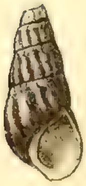

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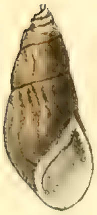


146 b

Sowerby. del et lith.

Vincent Brooks. Imp.

MELANIA.

Plate XXI.

Species 146. (Fig. *a*, *b*, Mus. V. d. Busch.)

Melania ornata. *Mel. testâ subulato-ovatâ, versus basin obtusè angulatâ, olivaceo-virente, maculis castaneis obliquè quadratis distantibus infra suturas cingulatâ, anfractibus paucis, declivi-planatis, crispato-striatis; aperturâ parviusculâ, columellâ callosâ.*

The ornate Melania. Shell subulately ovate, obtusely angled towards the base, olive-green, encircled beneath the sutures with distant, obliquely squared, chestnut spots, whorls few, slopingly flattened, crisply striated; aperture rather small, columella callous.

Philippi, Abbild. und Besch. Conch. vol. i. p. 4. pl. 1. f. 15, 16.

Hab. Java.

Well characterized by its encircling fillet of obliquely square, distant, bright-chestnut spots, which, however, are rendered obscure by age.

Species 147. (Mus. Cuming.)

Melania ferruginea. *Mel. testâ ovatâ, tenuiculâ, castaneo-fuscâ, anfractibus sex ad septem, rotundatis, lævibus; aperturâ rotundato-ovatâ, simplici.*

The rusty Melania. Shell ovate, rather thin, chestnut-brown, whorls six to seven, rounded, smooth; aperture rotundately ovate, simple.

Lea, Pro. Zool. Soc. 1850, p. 182.

Hab. —— ?

A slight *Paludina*-like species, of the simplest possible character.

Species 148. (Mus. Cuming.)

Melania simplex. *Mel. testâ turriculatâ, ad apicem attenuatâ, solidiusculâ, olivaceâ, anfractibus novem ad decem, rotundatis, versus apicem obscurè varicosis; aperturâ parvâ, labro columellari ad basin calloso-reflexo.*

The simple Melania. Shell turriculated, attenuated at the apex, rather solid, olive, whorls nine to ten, rounded, obscurely varicose towards the apex; aperture small, columellar lip callously reflected at the base.

Say, MS. in Mus. Cuming.

Hab. Tennessee, United States.

A small solid species, more than usually attenuated at the apex, of the *Pachychilus* type.

Species 149. (Mus. Cuming.)

Melania Cumingii. *Mel. testâ elongato-turriculatâ, solidiusculâ, lævi, cinereo-olivaceâ, fusco nebulatâ, anfractibus undecim, convexis; aperturâ parvâ, rotundatâ, obliquè effusâ, fuscescente, columellâ supernè callosâ.*

Cuming's Melania. Shell elongately turriculated, rather solid, smooth, ash-olive, clouded with brown, whorls eleven, convex; aperture small, rounded, obliquely effused, brownish, columella callous at the upper part.

Pachychilus Cumingii, Lea, Pro. Zool. Soc. 1850, p. 179.

Hab. Copan, Central America (in large rivers); Cuming.

Of the same subgeneric type as *M. lævissima* and *Sallei*, more attenuately coiled.

Species 150. (Mus. Cuming.)

Melania graphium. *Mel. testâ elongato-subulatâ, tenuiculâ, subrugosâ vel malleatâ, interdum spiraliter plicatâ, livido-cinereâ, versus apicem purpureo-fusco tinctâ, anfractibus novem ad decem, subrotundatis; aperturâ ovatâ, ad basin subeffusâ.*

The graver Melania. Shell elongately subulate, rather thin, subrugose or malleated, sometimes spirally plicated, livid-ash, stained towards the apex with purple-brown, whorls nine to ten, somewhat rounded; aperture ovate, a little effused at the base.

Morelet, Test. Nov. Amer. Cent. part 1. p. 26.

Hab. Vera Paz, Central America.

Of rather slight substance, and livid-ash colour, variously malleated, and spirally plicately ridged, the ridges being more or less obsolete. The columella and apex are stained with purple-rust.

Species 151. (Mus. Cuming.)

Melania sculptilis. *Mel. testâ elongato-tereti, solidâ, luteo-olivaceâ, castaneo-fusco strigatâ et maculatâ, anfractibus numerosis, declivi-planis, undique minutè spiraliter lineari-sculptis, ad suturas contractis; aperturâ parvâ, subrotundatâ, columellâ ad basin calloso-effusâ.*

The engraved Melania. Shell elongately terete, solid, yellowish-olive, streaked and spotted with chestnut-brown, whorls numerous, slopingly flattened, minutely spirally linearly engraved throughout, contracted at the sutures; aperture small, somewhat rounded, columella callously effused at the base.

Hab. —— ?

The habitat of this very characteristic form of *Pachychilus* is not known, but it is doubtless from Central America. The surface is groove-striated throughout with such minute regularity, that the shell looks, beneath the lens, as if it were engine-turned.

Species 152. (Mus. Cuming.)

Melania meretrix. *Mel. testâ turriculatâ, luteo-olivaceâ, cinereo-viridi profusè maculatâ, anfractibus crispato-striatis, supernè declivi-concavis, deinde rotundatis; aperturâ ovatâ, basi effusâ.*

The gaily-painted Melania. Shell turriculated, yellowish-olive, profusely blotched with ash-green, whorls crisply striated, slopingly concave round the upper part, then rounded; aperture ovate, effused at the base.

Hab. Taheiti.

Of rather slighter substance than the allied species, crisply striated throughout, and boldly painted with ash-green blotches upon a yellowish-olive ground.

Species 153. (Mus. Cuming.)

Melania pallidula. *Mel. testâ subulato-conicâ, solidiusculâ, pallidè olivaceo-luteâ, anfractibus octo ad novem, declivi-planatis, lævibus, primis perpaucis plicato-costatis; aperturâ oblongo-ovatâ, basi sublacunatâ.*

The pallid Melania. Shell subulately conical, rather solid, pale olive-yellow, whorls eight to nine, slopingly flattened, smooth, the first few plicately ribbed; aperture oblong-ovate, faintly channelled at the base.

Hab. West Africa.

Of the true *Melania* type, rather solid and smooth, but strongly ribbed at the apex.

Species 154. (Mus. V. d. Busch.)

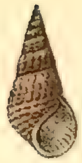
Melania testudinaria. *Mel. testâ turriculatâ, tenuiculâ, lutescente, carneo-tinctâ, rufo-castaneo maculatâ et strigatâ, anfractibus paucis, plano-convexis, obsoletè spiraliter striatis; aperturâ ovatâ, basi vix effusâ.*

The tortoise-shell Melania. Shell turriculated, rather thin, yellowish, flesh-tinged, blotched and streaked with reddish-chestnut, whorls few, flatly convex, obsoletely spirally striated; aperture ovate, slightly effused at the base.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. i. p. 3. pl. 1. f. 14.

Hab. Java.

A flesh-tinted shell, of rather slight structure, confusedly blotched and streaked with reddish-chestnut.



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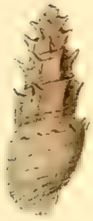

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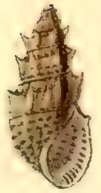

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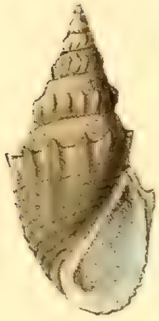

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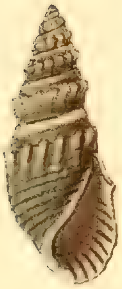

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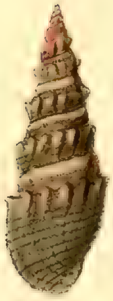

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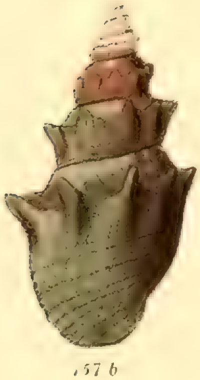

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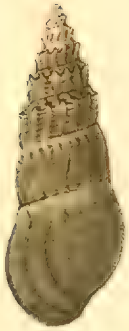

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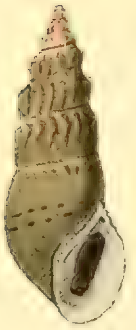

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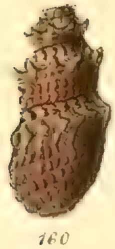

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Vincent Brooks, Imp.

MELANIA.

Plate XXII.

Species 155. (Mus. Cuming.)

MELANIA SCOPULUS. *Mel. testâ acuminato-conicâ, tenuiculâ, exusto-brunneâ, anfractibus octo, declivi-convexis, undique granoso-liratis; aperturâ parviusculâ, columellâ calloso-excavatâ.*

THE LITTLE ROCK MELANIA. Shell acuminately conical, rather thin, burnt-brown, whorls eight, slopingly convex, granosely ridged throughout; aperture rather small, columella callously excavated.

Hab. —— ?

An acuminated species, of lighter substance than is generally the case with the grained varieties.

Species 156. (Fig. *a*, *b*, Mus. Cuming.)

MELANIA SPINULOSA. *Mel. testâ cylindraceo-turritâ, tenuiculâ, virescente-olivaceâ, purpureo-castaneo tæniatâ et maculatâ, anfractibus septem ad octo, spiraliter plus minus obsoletè liratis, supernè angulatis, ad angulum acutè plicato-spinosis; aperturâ ovatâ, parviusculâ, ad basin paululum effusâ.*

THE SPINED MELANIA. Shell cylindrically turreted, rather thin, greenish-olive, filleted and spotted with purple-chestnut, whorls seven to eight, spirally more or less obsoletely ridged, angled round the upper part, sharply plicately spined at the angle; aperture ovate, rather small, a little effused at the base.

LAMARK, Anim. sans vert. vol. vi. p. 433.

Hab. Solomon's Island.

This interesting species was collected by MM. Quoy and Gaimard at Timor. Solomon's Island is the habitat of the specimens figured.

Species 157. (Fig. *a*, Mus. Cuming, Fig. *b*, Mus. V. d. Busch.)

MELANIA WINTERI. *Mel. testâ ovato-turritâ, solidiusculâ, virescente-olivaceâ, anfractibus septem ad octo, supernè lævibus et declivi-angulatis, ad angulum acutè plicato-tuberculatis, infra densè spiraliter liratis, interstitiis subprofundè excavatis; aperturâ ovatâ, ad basin subtruncatâ, columellâ calloso-contortâ.*

WINTER'S MELANIA. Shell ovately turreted, rather solid, greenish-olive, whorls seven to eight, smooth and slopingly angled at the upper part, sharply plicately tubercled at the angle, spirally closely ridged below, interstices rather deeply excavated; aperture ovate, somewhat truncated at the base, columella callously twisted.

VON DEM BUSCH, Philippi, Abbild. und Besch. Conch. vol. i. p. 1. pl. 1. f. 1.

Hab. Java and Philippine Islands.

An admirably characteristic species, of solid growth, sharply plicately tubercled, and of a peculiar greenish-olive colour.

Species 158. (Fig. *a*, Mus. V. d. Busch, Fig. *b*, Mus. Cuming.)

MELANIA COLLISTRICTA. *Mel. testâ oblongo-turritâ, solidiusculâ, livido-olivaceâ, luteo-marginatâ, anfractibus octo ad novem, supernè lævibus et declivi-angulatis, ad marginem calloso-funiculatis, ad angulum spinoso-tuberculatis, infra densè spiraliter liratis, interstitiis subprofundè excavatis; aperturâ ovatâ, ad basin subtruncatâ, columellâ calloso-contortâ.*

THE COLLARED MELANIA. Shell oblong-turreted, rather solid, livid-olive, yellow-edged, whorls eight to nine, smooth and slopingly angled at the upper part, callously corded at the margin, spinously tubercled at the angle, closely spirally ridged beneath, interstices rather deeply excavated; aperture ovate, slightly truncated at the base, columella callously twisted.

Hab. Nicobar and Philippine Islands.

In deference to the opinion and suggestion of Dr. Von dem Busch, the original describer of *M. Winteri*, I give this variety the rank of a species. It invariably differs in having the upper edge of the whorls thickened into a stout yellowish collar.

Species 159. (Fig. *a*, *b*, Mus. Cuming.)

MELANIA MIRIFICA. *Mel. testâ oblongo-turritâ, virente, purpureo-fusco sparsim tæniatâ, spirâ peculiariter productâ, anfractibus novem ad decem, decussatim tenuistriatis, supernè declivi-angulatis, longitudinaliter confertim plicato-liratis, liris ad angulum brevispinosis, angulo lirisque in anfractu ultimo et penultimo gradatim evanidis; aperturâ ovatâ, ad basin paululum effusâ, labro supernè subemarginato.*

THE MARVELLOUS MELANIA. Shell oblong, turreted, greenish, sparsely filleted with purple-brown, spire peculiarly produced, whorls nine to ten, finely decussately striated, slopingly angled at the upper part, longitudinally closely plicately ridged, ridges short-spined upon the angle, angle and ridges gradually disappearing on the last and penultimate whorls; aperture ovate, a little effused at the base, lip faintly notched at the upper part.

ADAMS, Pro. Zool. Soc. 1853, p. 99.

Hab. New Zealand.

This very interesting species is of much less solid structure than the preceding, and the sculpture, instead of becoming stronger as the shell advances to maturity, gradually disappears.

Species 160. (Mus. Cuming.)

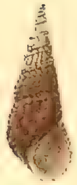
MELANIA BROTI. *Mel. testâ ovato-turritâ, solidiusculâ, ustulato-olivaceâ, anfractibus paucis, undique decussatim corrugato-liratis, supernè concavo-angulatis, ad angulum spinoso-tuberculatis; aperturâ parviusculâ, ad basin truncatâ, labro supernè emarginato.*

BROTIS'S MELANIA. Shell ovately turreted, rather solid, burnt-olive, whorls few, decussately wrinkle-ridged throughout, concavely angled at the upper part, spinously tubercled at the angle; aperture rather small, truncated at the base, lip notched at the upper part.

DOHRN, MS. in Mus. Cuming.

Hab. Ceylon.

Strongly grain-wrinkled throughout, and conspicuously coronated with spine-tubercles.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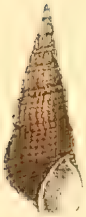
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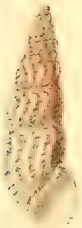
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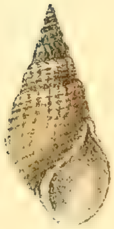
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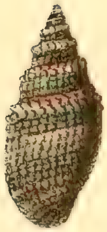
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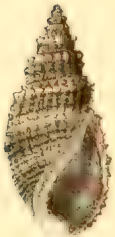
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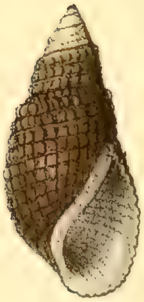
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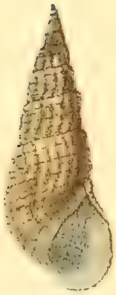
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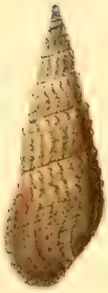
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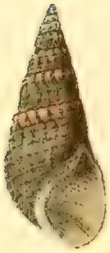
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Vincent Brooks

MELANIA.

Plate XXIII.

Species 161. (Mus. Cuming.)

Melania Dembea. *Mel. testâ subulatâ, ferrugineo-tinctâ, rufo-fusco punctatâ, fasciâ tenebrosâ circa columellam, anfractibus octo ad novem, undique grano-liratis, liris longitudinaliter subplicatis; aperturâ parvâ, labro columellari calloso-reflexo.*

The Dembea Melania. Shell subulate, rust-stained, dotted with red-brown, with a dark band round the columella, whorls eight to nine, grain-ridged throughout, ridges longitudinally subplicated; aperture small, columellar lip callously reflected.

Rüppell, MS. in Mus. Cuming.

Hab. Lake Dembea, Abyssinia; Rüppell.

An interesting grained species, collected by Dr. Rüppell in a lake in the interior of the province of Dembea, Abyssinia, supposed to be one of the sources of the Nile. It is obviously of the same general type as the North African *M. tuberculata.*

Species 162. (Mus. Cuming.)

Melania crebra. *Mel. testâ subulato-conicâ, tenebroso-castaneâ, anfractibus decem, convexiusculis, longitudinaliter tenuè plicato-liratis, spiraliter lineari-sulcatis, suturis angustè canaliculatis; aperturâ parvâ, ad basin subeffusâ.*

The close-grained Melania. Shell subulately conical, dingy-chestnut, whorls ten, rather convex, longitudinally finely plicately ridged, spirally linearly grooved, sutures narrowly channelled; aperture small, slightly effused at the base.

Lea, Pro. Zool. Soc. 1850, p. 193.

Hab. Island of Guimaras, Philippines (in a small stream); Cuming.

Mr. Cuming met with thousands of dead specimens of this species in the bed of a small stream at Guimaras, but none in a living state.

Species 163. (Mus. Cuming.)

Melania hybrida. *Mel. testâ angustè turritâ, solidâ, albidâ, rufescente-tinctâ, epidermide olivaceâ partim tinctâ, anfractibus octo ad novem, supernè obtusè plicatis, longitudinaliter undato-costatis, spiraliter sulcato-striatis; aperturâ parvâ, ad basin subeffusâ, labro supernè emarginato.*

The hybrid Melania. Shell narrowly turreted, solid, whitish, red-tinged, partially covered with an olive epidermis, whorls eight to nine, obtusely angled round the upper part, longitudinally wave-ribbed, spirally groove-striated; aperture small, slightly effused at the base, lip notched at the upper part.

Hab. —— ?

This shell, which has rather a deformed manner of convolution, partakes of the character of *Pleurotoma*, and is probably an estuary species.

Species 164. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania lateritia. *Mel. testâ ovatâ, subventricosâ, spirâ breviusculâ, olivaceâ vel lutescente, interdum cæruleo-fasciatâ, anfractibus octo ad decem, undique profusè quadrato-granatis, suturis impresso-canaliculatis; aperturâ oblongo-ovatâ, labro columellari calloso-effuso.*

The brickwork Melania. Shell ovate, somewhat ventricose, spire rather short, olive or yellowish, sometimes blue-banded, whorls eight to ten, profusely square-grained throughout, sutures impressly channelled; aperture oblong-ovate, columellar lip callously effused.

Lea, Pro. Zool. Soc. 1850, p. 196.

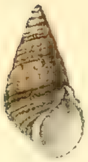
Hab. Philippine Islands; Cuming.

An extremely variable species, collected abundantly by Mr. Cuming at several of the Philippine Islands. It is mostly sculptured throughout with prominent square grains, frequently of large size, resembling courses of brickwork.

Fig. 165 *a*, *b*, and Fig. 166. (Mus. Cuming.)

The shells here figured I had regarded as species distinct from the preceding, the former strongly square-grained, with the spire sharply acuminated, and the latter acuminated, with the grains almost obsolete. Mr. Lea, however, has pronounced them to be varieties of *M. lateritia*, and a more enlarged examination of the specimens brings me to the same conviction.

Melania Pl. XXIV.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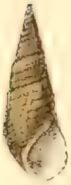
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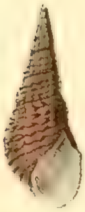
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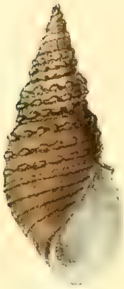
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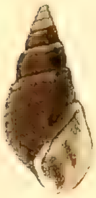
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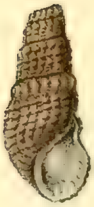
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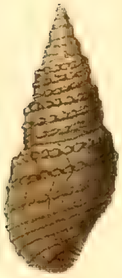
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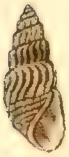
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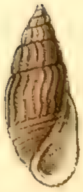
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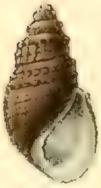
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Sowerby, del. et lith.

Vincent Brooks, Imp.

MELANIA.

Plate XXIV.

Species 167. (Fig. *a*, Mus. Cuming, Fig. *b*, Mus. V. d. Busch.)

Melania semigranosa. *Mel. testâ ovatâ, solidiusculâ, tenebroso-olivaceâ, fusco fasciatâ aut lineatâ, anfractibus quinque ad sex, supernè brevi-angulatis, granis quadratis bi-triseriatim cingulatis, deinde lævibus; aperturâ ovata, labro columellari calloso-reflexo.*

The half-grained Melania. Shell ovate, rather solid, dark-olive, banded or lineated with brown, whorls five to six, shortly angled round the upper part, and encircled with two or three rows of square grains, then smooth; aperture ovate, columellar lip callously reflected.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. i. p. 2. pl. 1. f. 13.

Hab. Java.

This species is very closely allied to *M. lateritia* of the preceding Plate, but has no granular sculpture upon the lower part of the shell, which is, moreover, encircled with black bands or lines.

Species 168. (Mus. Cuming.)

Melania verrucosa. *Mel. testâ angustè acuminatâ, olivaceâ, anfractibus septem ad octo, declivi-planatis, granis quadratis peramplis obsoletis cingulatis, interstitiis crispato-striatis; aperturâ parvâ, columellâ calloso-incurvâ.*

The warty Melania. Shell narrowly acuminated, olive, whorls seven to eight, slopingly flattened, encircled with large square obsolete grains, interstices crisp-striated; aperture small, columella callously incurved.

Hinds, Ann. and Mag. Nat. Hist. vol. xiv. p. 8.

Hab. New Ireland; Hinds.

A slenderly acuminated shell, in which the grains common to this type, take the form of large, smooth, superficial warts.

Species 169. (Mus. Cuming.)

Melania crenifera. *Mel. testâ acutè acuminatâ, tenuiculâ, fusco-olivaceâ, anfractibus novem ad decem, plano-convexis, undique validè grano-liratis; aperturâ parvâ, columellâ calloso-incurvâ.*

The crenated Melania. Shell sharply acuminated, rather thin, fuscous-olive, whorls nine to ten, flatly convex, strongly grain-ridged throughout; aperture small, columella callously incurved.

Lea, Pro. Zool. Soc. 1850, p. 192.

Hab. Java (in a small river).

Of lighter structure, more slenderly acuminated than the preceding species, strongly grained throughout.

Species 170. (Fig. *a*, *b*, Mus. Cuming.)

Melania lyrata. *Mel. testâ ovato-conicâ, solidiusculâ, olivaceâ, fusco-lineatâ, anfractibus octo, declivi-convexis, liris fuscis distantibus cingulatis, quarum superioribus granatis; aperturâ ovatâ, columellâ calloso-incurvâ.*

The harp-strung Melania. Shell ovately conical, rather solid, olive, brown-lineated, whorls eight, slopingly convex, encircled with distant brown ridges, of which the upper ones are grained; aperture ovate, columella callously incurved.

Menke, MS. in Mus. Cuming.

Hab. Sikkim-Himalaya; Bacon.

An interesting variety of the *M. lateritia* type, which abounds in Java and the Philippine Islands. It runs, perhaps, still more closely into *M. semigranosa.*

Species 171. (Mus. Cuming.)

Melania Luzoniensis. *Mel. testâ ovatâ, tenuiculâ, tenebroso-olivaceâ, ad suturas lutescente, anfractibus quinque ad sex, convexiusculis, liris latiusculis superficiariis cingulatis, interstitiis crispato-striatis; aperturâ ovatâ, columellâ calloso-effusâ, fauce fusco-fasciatâ.*

The Luzon Melania. Shell ovate, rather thin, dark-olive, yellowish at the sutures, whorls five to six, rather convex, encircled with rather broad superficial ridges, the interstices between which are crisp-striated; aperture ovate, columella callously effused, interior brown-banded.

Lea, Pro. Zool. Soc. 1850, p. 188.

Hab. Calanang, Province of Baie, Island of Luzon, Philippines; Cuming.

The broad ridges of this species have a tendency to granulation, but it is quite superficial.

Species 172. (Mus. Cuming.)

MELANIA RUDIS. *Mel. testâ subfusiformi-turritâ, solidâ, olivaceâ, anfractibus planulatis, longitudinaliter undato-costatis, spiraliter densè sulcato-striatis; aperturâ parvâ, ad basin truncatâ, labro supernè emarginato.*

THE RUDE MELANIA. Shell somewhat fusiformly turreted, solid, olive, whorls flattened, longitudinally wave-ribbed, spirally closely groove-striated; aperture small, truncated at the base, lip notched at the upper part.

LEA, Pro. Zool. Soc. 1850, p. 186.

Hab. Amboyna.

Of the same *Pleurotoma*-like character as *M. hybrida*, and very much resembling that species in detail of sculpture.

Species 173. (Fig. *a*, Mus. V. d. Busch,
Fig. *b*, Mus. Cuming.)

MELANIA TORNATELLA. *Mel. testâ cylindraceo-ovatâ, livido-spadiceâ, ad basin interdum fusco-punctatâ, spirâ plus minus acuminatâ, anfractibus octo ad novem, longitudinaliter confertim obliquè undato-liratis, versus basin spiraliter liratis; aperturâ angustè ovatâ, calloso-reflexâ, labro medio sinuato.*

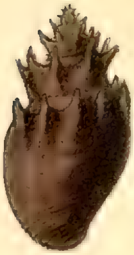
THE TORNATELLA MELANIA. Shell cylindrically ovate, livid-bay, sometimes brown-dotted at the base, spire more or less acuminated, whorls eight to nine, longitudinally closely obliquely wave-ridged, towards the base spirally ridged; aperture narrowly ovate, columella callously reflected, lip sinuated in the middle.

LEA, Pro. Zool. Soc. 1850, p. 185.

Melania mitra, Dunker (not of Meuschen).

Hab. Tanhay, Island of Negros, Philippines (in shallow rivers); Cuming.

This is a very distinct form of *Melania*, and should constitute a subgenus of itself.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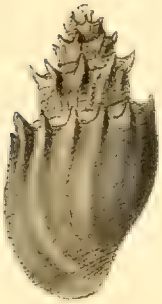
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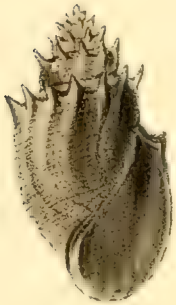
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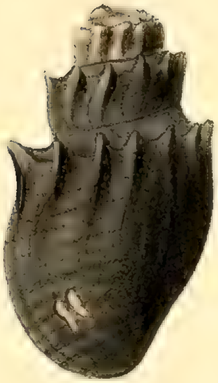
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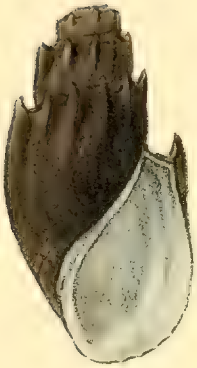
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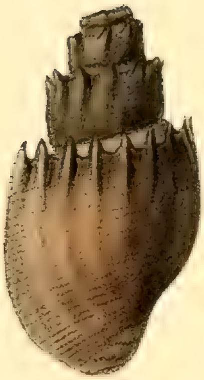
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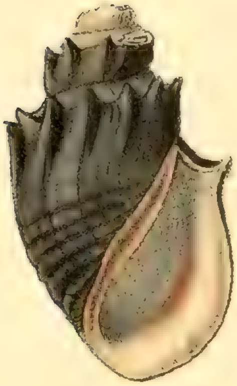
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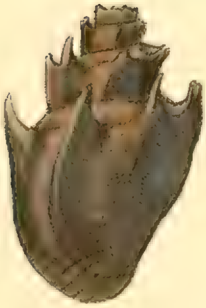
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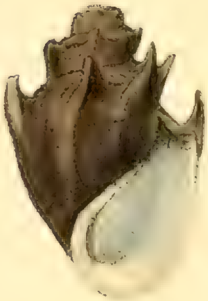
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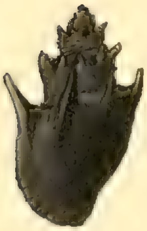

177

MELANIA.

Plate XXV.

Species 174. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania diadema. *Mel. testâ ovatâ, tenui, inflatâ, fusco-olivaceâ, epidermide molli indutâ, spirâ breviusculâ, acutè turritâ, anfractibus octo, lævibus, versus apicem lirato-striatis, supernè concavo-angulatis, ad angulum muricato-spinosis, spinis subextrusis; aperturâ ovatâ, columellâ calloso-effusâ.*

The diadem Melania. Shell ovate, thin, inflated, brownish-olive, covered with a soft epidermis, spire rather sharp, sharply turreted, whorls eight, smooth, ridge-striated towards the apex, sharply concavely angled at the upper part, prickly spined at the angle, spines somewhat turned outwards; aperture ovate, columella callously effused.

Lea, Pro. Zool. Soc. 1850, p. 194.

Hab. Island of Guimaras, Philippines (in small streams); Cuming.

Chiefly distinguished from its more ancient allies by its lighter structure and by the smaller prickly and extruding character of the spines.

Species 175. (Fig. *a*, *b*, *c*, *d*, Mus. Cuming.)

Melania mitra. *Mel. testâ ovatâ, ventricosâ, nigro-fuscâ, epidermide molli interdum indutâ, anfractibus paucis, lævibus, supernè concavo-angulatis, ad angulum muricato-tuberculatis; aperturâ obliquè ovatâ, columella calloso-effusâ, fauce interdum sanguinolento.*

The mitre Melania. Shell ovate, ventricose, black-brown, sometimes covered with a soft epidermis, whorls few, smooth, sharply concavely angled at the upper part, prickly-tubercled at the angle; aperture obliquely ovate, columella callously effused, interior sometimes blood-stained.

Helix mitra, Meuschen, Mus. Gronov. p. 128. n. 1363.
Melania thiarella, Lamarck.

Hab. Point Palmas, Sumatra (in a small river); Cuming.

In this species, which is the largest of the group, the prickly tubercles are more regular, and can hardly be said to be prolonged into spines.

Species 176. (Fig. *a*, *b*, Mus. Cuming.)

Melania cornuta. *Mel. testâ latè ovatâ, inflatâ, fusco-nigrâ, anfractibus paucis, lævibus, supernè latè concavo-angulatis, ad angulum tuberculato-spinosis, spinis distantibus, cornutis; aperturâ subquadrato-ovatâ, columellâ calloso-reflexâ.*

The horned Melania. Shell broadly ovate, inflated, brown-black, whorls few, smooth, broadly concavely angled at the upper part, tubercularly spined at the angle, spines distant, horned; aperture somewhat squarely ovate, columella callously reflected.

Lea, Pro. Zool. Soc. 1850, p. 194.

Hab. Madagascar.

Of broader, inflated growth, with the tubercular spines fewer and more distant, and of more horn-like character.

Species 177. (Mus. Cuming.)

Melania amarula. *Mel. testâ ovatâ, subventricosâ, nigrâ, anfractibus sex, obsoletè spiraliter striatis, supernè concavo-angulatis, ad angulum conspicuè spinosis; aperturâ parviusculâ, columellâ calloso-reflexâ.*

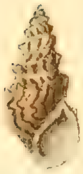
The tiara Melania. Shell ovate, somewhat ventricose, black, whorls six, obsoletely spirally striated, concavely angled at the upper part, prominently spined at the angle; aperture rather small, columella callously reflected.

Helix amarula, Linnæus, Syst. Nat. p. 1249.
Buccinum amarula, Müller.
Bulimus amarula, Bruguière.
Melania amarula, Lamarck.
Tiara amarula, Swainson.

Hab. Mauritius.

Of smaller size than the preceding species, less inflated, with the spines more produced.

January, 1860.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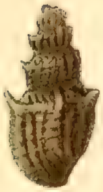
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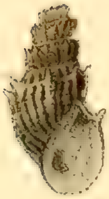
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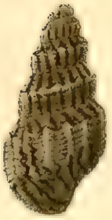
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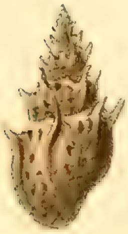
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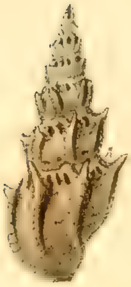
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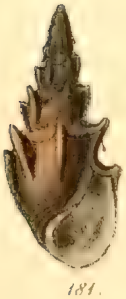
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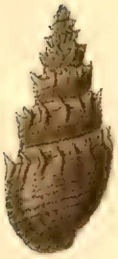
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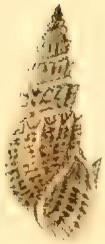
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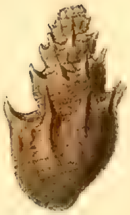

183

MELANIA.

Plate XXVI.

Species 178. (Mus. Cuming.)

Melania elegans. *Mel. testâ ovato-turritâ, flavo-virescente, rufo minutè punctatâ et lineari-undatâ, anfractibus septem ad octo, spiraliter densè tenuiliratis, supernè declivi-angulatis, ad angulum nunc spinulosis nunc muticis; aperturâ parviusculâ, ovatâ, supernè subsinuatâ.*

The elegant Melania. Shell ovately turreted, yellowish-green, minutely dotted and linearly waved with red, whorls seven to eight, spirally densely finely ridged, slopingly angled at the upper part, sometimes spined, sometimes smooth at the angle; aperture rather small, ovate, slightly sinuated at the upper part.

Benson, MS. Mus. Cuming.

Hab. Afghanistan, India.

A rather light shell, of a pale yellowish-green colour, prettily painted with red dots, and waved linear streaks.

Species 179. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania Feejeensis. *Mel. testâ ovato-turritâ, olivaceo-viridi, purpureo variè punctatâ et lineari-strigatâ, anfractibus octo ad novem, spiraliter funiculato-liratis, supernè declivi-angulatis, longitudinaliter irregulariter plicatis, plicis ad angulum nunc denticulatis nunc aculeato-spinosis; aperturâ ovatâ.*

The Feejee Melania. Shell ovately turreted, olive-green, variously dotted and linearly streaked with purple, whorls eight to nine, spirally cord-ridged, slopingly angled round the upper part, longitudinally irregularly plicated, plaits sometimes denticulated, sometimes prickly spined on the angle; aperture ovate.

Hab. Feejee Islands.

This species is of a darker green colour than others of the type, and the encircling ridges have a more defined cord-like character.

Species 180. (Fig. *a*, *b*, Mus. Cuming.)

Melania pugilis. *Mel. testâ pyramidali-turritâ, tenuiculâ, fuscâ aut virescente, rufo sparsim punctatâ, anfractibus octo ad decem, spiraliter tenuiliratis, supernè declivi-angulatis, ad angulum tubuloso-spinosis, spinis valdè conspicuis, in varicibus subdistortis infernè productis; aperturâ ovatâ.*

The armed Melania. Shell pyramidally turreted, rather thin, brown or greenish, sparingly dotted with red, whorls eight to ten, spirally finely ridged, slopingly angled round the upper part, tubularly spined at the angle, spines very conspicuous, produced towards the lower part into somewhat distorted varices; aperture ovate.

Hinds, Moll. Voy. Sulphur, p. 58. f. 15, 16.

Melania bellicosa, Hinds.

Melania acanthica, Lea.

Hab. Manilla and Island of Negros, Philippines; Cuming.

In both the examples given of this species, one a swollen ventricose form, the other an acuminated, the spined varices have a peculiar pinched growth, differing in this respect from the two very closely allied species which follow.

Species 181. (Mus. Cuming.)

Melania orientalis. *Mel. testâ pyramidali-turritâ, lævigatâ, nigerrimâ, anfractibus septem ad octo, supernè declivi-angulatis, primis longitudinaliter costulatis, cæteris validè plicato-spinosis; aperturâ ovatâ, columellâ versus basin calloso-excavatâ.*

The oriental Melania. Shell pyramidally turreted, smooth, very black, whorls seven to eight, slopingly angled round the upper part, the first few whorls longitudinally finely ribbed, the rest strongly plicately spined; aperture ovate, columella callously excavated towards the base.

Adams, Pro. Zool. Soc. 1853, p. 99.

Hab. Eastern Archipelago; Cuming.

The spines of this species are remarkably strongly developed, being raised as it were on buttresses.

Species 182. (Fig. *a*, *b*, Mus. Cuming.)

Melania pagoda. *Mel. testâ pyramidali-turritâ, tenui, corneâ, purpureo-fusco punctatâ, anfractibus novem ad decem, spiraliter tenuiliratis, supernè declivi-angulatis, ad angulum subprofusè denticulato-spinosis; aperturâ ovatâ.*

The pagoda Melania. Shell pyramidally turreted, thin, horny, dotted with purple-brown, whorls nine to ten, spirally finely ridged, slopingly angled round the upper part, rather profusely denticulately spined; aperture ovate.

LEA, Pro. Zool. Soc. 1850, p. 197.

Hab. Island of Guimaras, Philippines.

This elegant species, described by Mr. Lea, from a small specimen, runs clearly into the following.

Species 183. (Mus. Cuming.)

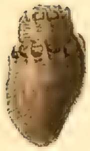
MELANIA SCABRA. *Mel. testâ ovatâ, interdum subelongatâ, tenuiculâ, fuscescente-olivaceâ, purpureo-ferrugineo punctatâ et interdum strigatâ, anfractibus septem ad novem, spiraliter inæqualiter striato-liratis, supernè declivi-angulatis, ad angulum aculeato-spinosis, spinis in varicibus paulo descendentibus; aperturâ ovatâ.*

THE SCABROUS MELANIA. Shell ovate, sometimes a little elongated, rather thin, brownish-olive, dotted, and sometimes streaked with purple-rust, whorls seven to nine, spirally unequally striately ridged, slopingly angled round the upper part, prickly spined at the angle, spines a little descending in varices; aperture ovate.

Buccinum scabrum, Müller, verm. p. 136.
Bulimus scaber, Bruguière.
Melania scabra, Férussac.
Helix aspera, Dillwyn.

Hab. Mauritius and Seychelles.

A shell of very light substance, and of rather broader proportions than the rest of this type.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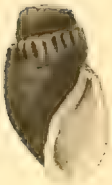
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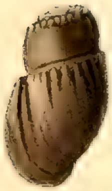
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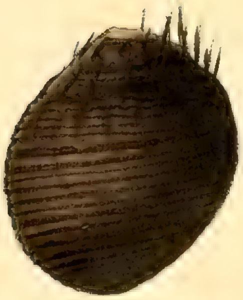
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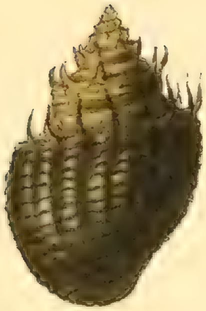
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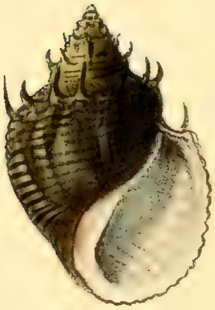
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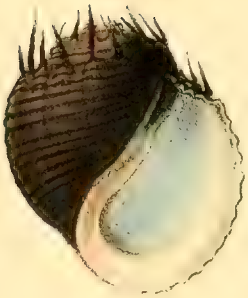
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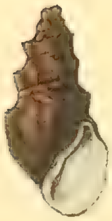
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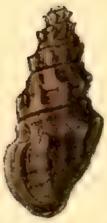
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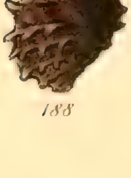

188

MELANIA.

Plate XXVII.

Species 184. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania speciosa. *Mel. testâ ovato-oblongâ, nigrâ, subvillosâ, anfractibus paucis, convexo-planis, spiraliter striatis, supernè angustè acutè angulatis, ad angulum squamato-spinosis, spinis parvis, confertis, subsetosis; aperturâ oblongo-ovatâ.*

The goodly Melania. Shell ovately oblong, black, a little hairy, whorls few, convexly flattened, spirally striated, sharply narrowly angled round the upper part, squamately spined at the angle, spines small, close-set, slightly bristly; aperture oblong-ovate.

Adams, Pro. Zool. Soc. 1853, p. 99.

Hab. New Caledonia; Cuming.

In this very interesting species there is a curious link with *M. setosa*. The whorls are similarly coronated with fine spines, each emitting a bristle, but the spines are much smaller and closer together.

Species 185. (Fig. 185 *a*, *b*, and 186 *a*, *b*, Mus. Cuming.)

Melania setosa. *Mel. testâ ovato-ventricosâ, subglobosâ, solidiusculâ, nigrescente-olivaceâ, anfractibus octo ad novem, spiraliter liratis, longitudinaliter interdum tumido-plicatis, supernè concavo-angulatis, ad angulum minutè squamato-spinosis, spinis conspicuè setigeris; aperturâ subamplâ, columellâ latè callosâ, subincurvâ.*

The bristly Melania. Shell ovately ventricose, subglobose, rather solid, blackish-olive, whorls eight to nine, spirally ridged, longitudinally sometimes swollen-plicated, concavely angled round the upper part, minutely squamately spined at the angle, each spine bearing a conspicuous bristle; aperture rather large, columella broadly callous, a little incurved.

Swainson, Zool. Illus. vol. i. *Melania*, f. 6, 7, 8.

Buccinum aculeatum, Lister.

Hab. Islands of Guimaras and Negros, Philippines (in rocky streams), and Point Palmas, Sumatra (in sluggish streams); Cuming.

The two varieties of this interesting species, Fig. 185 *a*, *b*, and Fig. 186 *a*, *b*, collected by Mr. Cuming respectively at the Philippine Islands and at Sumatra, I had taken at first sight to be different species. The first is perfectly globose, plicated only at the angle, with the spire but little raised, and the columella much incurved. In the latter the shell is turbinated ovately, and wrinkled with strong concentric folds, and the columella is straighter. In both the upper angle of the whorls is coronated with minute spine-scales, out of each of which protrudes a strong, erect bristle. The species was known to the older French writers as "The ventricose spiny river *Thiara*."

Species 187. (Fig. *a*, *b*, Mus. Cuming.)

Melania dura. *Mel. testâ conico-turritâ, crassâ, intensè castaneâ, anfractibus septem ad octo, supernè rudè funiculatis, deinde subangulatis et validè obliquè plicato-tuberculatis; aperturâ ovatâ.*

The hard Melania. Shell conically turreted, thick, dark-chestnut, whorls seven to eight, rudely corded round the upper part, then slightly angled, and strongly obliquely plicately tubercled; aperture ovate.

Hab. —— ?

A well-defined species, of stout substance and dark-chestnut colour.

Species 188. (Mus. Cuming.)

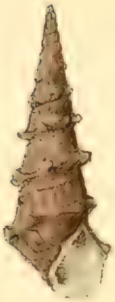
Melania hippocastanum. *Mel. testâ ovatâ, subventricosâ, castaneo-nigrâ, anfractibus paucis, convexis, costis distantibus conspicuè spinoso-squamatis cinctis, suturis subexcavatis; aperturâ ovatâ, fauce cærulescente, columellâ latè callosâ.*

The horse-chestnut Melania. Shell ovate, rather ventricose, chestnut-black, whorls few, convex, encircled with distant, prominently spine-scaled ribs, sutures rather excavated; aperture ovate, interior bluish, columella broadly callous.

Hab. Borneo.

This interesting species, from Borneo, stands quite alone in the genus. Its encircling armature of spur-like ribs of spine-scales represents a type altogether new.

February, 1860.



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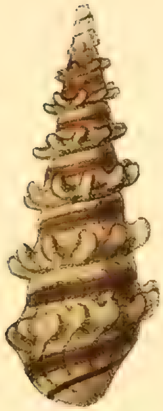

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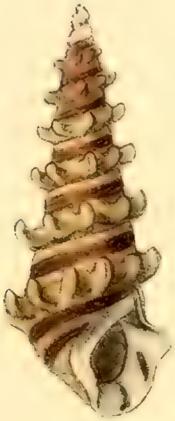

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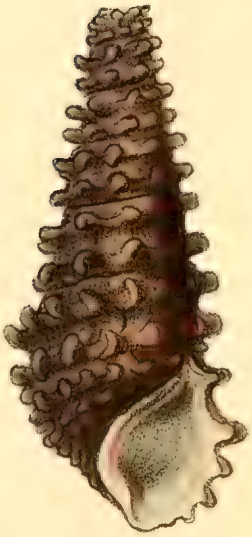

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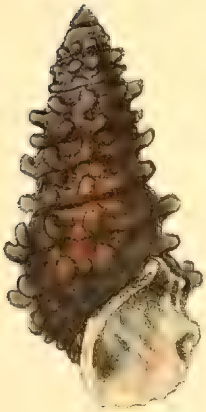

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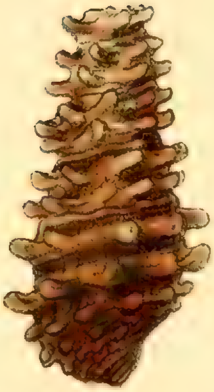

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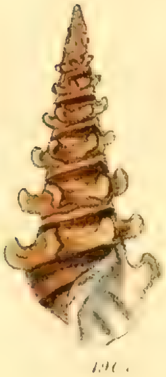


190 c

MELANIA.

Plate XXVIII.

Species 189. (Mus. Cuming.)

Melania fastigiella. *Mel. testâ acutissimè pyramidali-turritâ, lutescente-fuscâ, anfractibus duodecim ad tredecim, primis spiraliter liratis et longitudinaliter obliquè costatis, cæteris medio angulato-carinatis, ad carinam squamato-tuberculatis; aperturâ parvâ, latè ovatâ, columellâ calloso-effusâ et truncatâ.*

The minaret Melania. Shell very sharply pyramidally turreted, yellowish-brown, whorls twelve to thirteen, the first spirally ridged and longitudinally obliquely ribbed, the rest angularly keeled round the middle, squamately tubercled on the keel; aperture small, broadly ovate, columella callously effused and truncated.

Hab. —— ?

Very distinct in its detail of sculpture from the better-known species which follow. The shell is much more slenderly convoluted, and the sculpture of the early whorls consists of close-set, oblique ribs. On the last three whorls the periphery becomes tubercled, and the tubercles are sheathed in a distinct scale.

Species 190. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania aurita. *Mel. testâ acutè pyramidali-turritâ, solidâ, fulvâ aut luteâ, fasciâ nigro-castaneâ conspicuâ cingulatâ, anfractibus decem ad duodecim, spiraliter liratis et striatis, tuberculis compressis obtusis ad peripheriam prominentè armatis; aperturâ parviusculâ, ovatâ, ad basin subeffusâ, labro supernè emarginato, columellâ calloso-reflexâ.*

The eared Melania. Shell sharply pyramidally turreted, solid, fulvous or yellow, encircled with a conspicuous blackish-chestnut band, whorls ten to twelve, spirally ridged and striated, armed at the periphery with prominent, compressed, obtuse tubercles; aperture rather small, ovate, a little effused at the base, lip notched at the upper part, columella callously reflected.

Nerita aurita, Müller, Verm. p. 192. n. 379.
Strombus tympanorum, Chemnitz.
Bulimus auritus, Bruguière.
Strombus auritus, Gmelin.
Pirena aurita, Lamarck.
Melania tympanotus, Deshayes.
Melania aurita, Férussac.

Hab. West Africa.

Of this well-known, prettily painted, and prettily sculptured species, an admirable figure, with the living animal, was published by M. Rang, in 1832, in Guerin's 'Magasin de Zoologie.'

Species 191. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania tuberculosa. *Mel. testâ pyramidali-turritâ, crassâ, obesâ, olivaceo-brunneâ, anfractibus duodecim ad quatuordecim aut pluribus, spiraliter liratis et interdum granatis, medio creberrimè tuberculatis, tuberculis subcompressis, obtusis, valdè irregularibus, interdum autem raro bifurcatis, anfractûs ultimi parte inferiori conspicuè muricato-granatâ; aperturâ ovatâ, labro emarginato, columellâ calloso-reflexâ.*

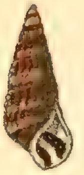
The tubercled Melania. Shell pyramidally turreted, thick, stout, olive-brown, whorls twelve to fourteen or more, spirally ridged and sometimes grained, very crowdedly tubercled in the middle, tubercles subcompressed, obtuse, very irregular, sometimes, but rarely, bifurcated, lower part of the last whorl conspicuously prickly-grained; aperture ovate, lip notched, columella callously reflected.

Rang, Guerin's Mag. de Zool. 1832, Moll. pl. 13.
Melania Owenii, nonnul.

Hab. West Africa (in company with *Galathea*); Rang.

A much stouter and more densely tubercled species than the preceding, with an animal, according to M. Rang's interesting figure, of a different colour.

January, 1860.



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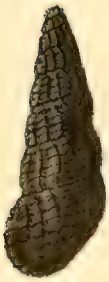

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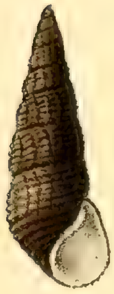

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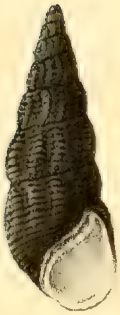

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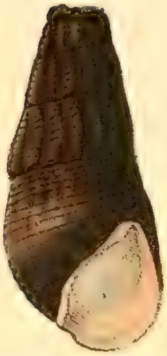

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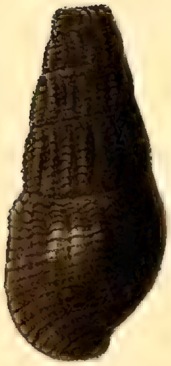

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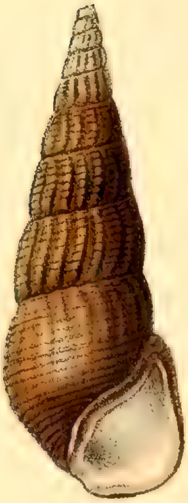

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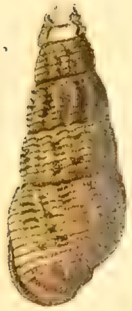

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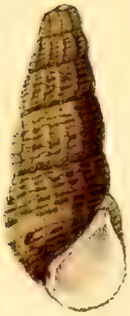

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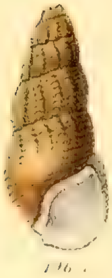


196 c

MELANIA.

Plate XXIX.

Species 192. (Mus. Cuming.)

Melania histrionica. *Mel. testâ turriculatâ, solidiusculâ, fusco-nigro et roseo alternatim fasciatâ, anfractibus septem ad octo, declivi-planatis, undique densè grano-liratis, granis longitudinaliter concentricè plicatis; aperturâ parvâ, ad basin subcanaliculatâ, labro supernè sinuato, columellâ calloso-reflexâ.*

The harlequin Melania. Shell turriculated, rather solid, alternately banded with fuscous-black and rose, whorls seven to eight, slopingly flattened, densely grain-ridged throughout, the grains forming longitudinally concentric plaits; aperture small, slightly channelled at the base, lip sinuated at the upper part, columella callously reflected.

Hab. Cape Colony.

It may be noticed by the foregoing description that there is a great deal of character in this little shell; and the alternating contrast of black and delicate rose-colouring is remarkable.

Species 193. (Mus. Cuming.)

Melania Branca. *Mel. testâ elongato-turritâ, ad basin clavatâ, crassâ, cæruleo-nigrâ, anfractibus novem, convexis, longitudinaliter concentricè plicatis, spiraliter liris regularibus undique validè funiculatis, suturis impressis; aperturâ lunari-ovatâ, supernè ascendente, ad basin subemarginatâ, columellâ arcuatâ.*

The Branca Melania. Shell elongately turreted, club-shaped at the base, thick, blue-black, whorls nine, convex, longitudinally concentrically plicated, spirally strongly corded throughout with regular ridges, sutures impressed; aperture lunar-ovate, ascending at the upper part, slightly notched at the base, columella arched.

Hab. Rio Branca, Brazil.

This species is of the true *Vibex* type, neatly closely corded throughout over concentric folds.

Species 194. (Mus. Cuming.)

Melania Macapa. *Mel. testâ elongato-turritâ, crassâ, cæruleo-nigrâ, anfractibus novem ad decem, convexis, concentricè plicatis, plicis subdistantibus, spiraliter liratis, liris confertis, subobtusis, suturis impressis; aperturâ lunari-ovatâ, supernè ascendente, ad basin subemarginatâ, columellâ arcuatâ.*

The Macapa Melania. Shell elongately turreted, thick, blue-black, whorls nine to ten, convex, concentrically plicated, folds rather distant, spirally ridged, ridges close-set, rather obtuse, sutures impressed; aperture lunar-ovate, ascending at the upper part, slightly notched at the base, columella arched.

Moricand, Journ. Conch. vol. 5. p. 176. pl. 6. f. 7.

Hab. Macapa, Guiana.

Very similar to the preceding species, but of stouter growth, with the concentric folds more distant from each other. The spiral corded ridges are, moreover, more obtuse, and even flattened in the interstices between the concentric folds.

Species 195. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania atra. *Mel. testâ oblongo-turritâ, crassâ, nigrâ vel nigro-olivaceâ, versus apicem sparsim nigro-punctatâ, anfractibus novem ad decem, convexis, liris spiralibus undique densè funiculatis, longitudinaliter concentricè plicatis, plicis in anfractu ultimo evanidis; aperturâ lunari-ovatâ, supra sinuatâ, infra emarginatâ.*

The black Melania. Shell oblong-turreted, thick, black or blackish-olive, sparingly black-dotted towards the apex, whorls nine to ten, convex, closely corded throughout with spiral ridges, longitudinally concentrically plicated, plaits fading away in the last whorl; aperture lunar-ovate, sinuated above, notched below.

Bulimus ater, Richard, Act. Soc. d'Hist. Nat. Paris, p. 126. n. 18.
Melania semiplicata, Férussac.
Melania truncata, Lamarck.
Melania atra, Deshayes.

Hab. Essequibo River, Guiana. Burmah.

It is important to remark the geographical range of this species. The specimen Fig. 195 *a*, *b*, is from Guiana, and the specimen Fig. 195 *c*, is from Burmah, and I have in vain endeavoured to trace any specific difference in them.

January, 1860.

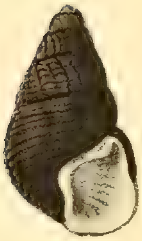
Species 196. (Fig. *a*, *b*, *c*, Mus. Cuming.)

MELANIA TRANSVERSA. *Mel. testâ oblongo-turritâ, crassâ, luteo-olivaceâ, anfractibus septem ad octo, convexis, longitudinaliter concentricè plicatis, plicis obesis, subdistantibus, spiraliter liratis, liris confertis, subobtusis; aperturâ transversè ovatâ, ad basin obliquè marginatâ, columellâ calloso-arcuatâ.*

THE TRANSVERSE MELANIA. Shell oblong-turreted, thick, yellowish-olive, whorls seven to eight, convex, longitudinally concentrically plicated, folds stout, rather distant, spirally ridged, ridges close-set, and rather obtuse; aperture transversely ovate, obliquely notched at the base, columella callously arched.

Hab. —— ?

Very closely allied in form and detail to the preceding species, and doubtless from the same locality, but much smaller, and of a more uncouth dwarfed growth.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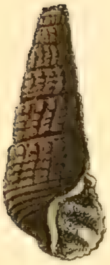
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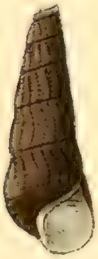
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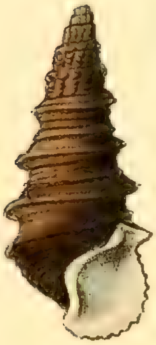
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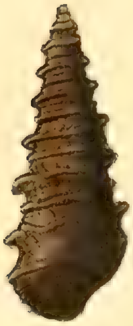
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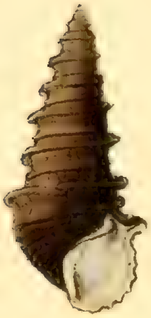
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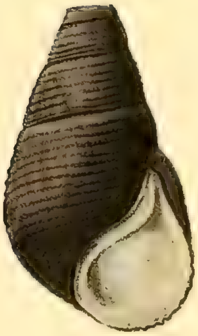
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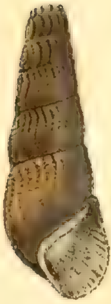
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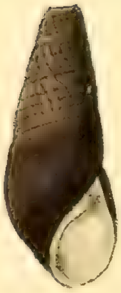
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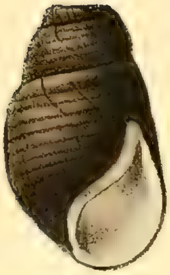
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MELANIA.

Plate XXX.

Species 197. (Mus. Cuming.)

Melania brevior. *Mel. testâ obeso-conicâ, crassâ, olivaceo-nigrâ, intus cærulescente, anfractibus paucis, convexis, undique densè profundè sulcatis, versus apicem concentricè subplicatis, suturis subimpressis; aperturâ subquadrato-ovatâ, utrinque sinuatâ.*

The shorter Melania. Shell stoutly conical, thick, olive-black, bluish within, whorls few, convex, closely deeply grooved throughout, faintly concentrically plicated towards the apex, sutures rather impressed; aperture somewhat squarely ovate, sinuated at each end.

Troschel, in Schomburgk's 'Travels in British Guiana,' vol. ii. p. 550.

Hab. Rio Branca, Guiana; Yates.

A shortly convoluted shell, of solid growth, encircled throughout with deep close-set grooves, the upper whorls being faintly concentrically plicated.

Species 198. (Mus. Cuming.)

Melania loricata. *Mel. testâ elongato-turritâ, solidiusculâ, nigrâ, intus cærulescente, anfractibus subnumerosis, declivi-planatis, undique plicatim tuberculato-granatis, suturis tenuicarinatis, anfractu ultimo infernè densè spiraliter carinato; aperturâ ovatâ, parvâ, utrinque sinuatâ.*

The armour-clad Melania. Shell elongately turreted, rather solid, black, blue in the interior, whorls rather numerous, slopingly flattened, plicately tubercularly grained throughout, sutures finely keeled, last whorl densely spirally keeled at the lower part; aperture ovate, small, sinuated at both ends.

Hab. —— ?

This elongately turreted species is of rather solid growth, covered with a strongly sculptured armour of tubercular grains. Although its habitat is not known, there can be little doubt of its being from Brazil.

Species 199. (Mus. Cuming.)

Melania subimbricata. *Mel. testâ elongato-turritâ, tenuiculâ, olivaceo-nigrâ, anfractibus subnumerosis, declivi-planatis, partim concavis, longitudinaliter concentricè costulatis, costulis angustis, interstitiis liris tenuibus spiralibus nitidè cancellatis; aperturâ parvâ, rotundatâ, utrinque sinuatâ.*

The finely-imbricated Melania. Shell elongately turreted, rather thin, olive-black, whorls rather numerous, slopingly flattened, concave in part, longitudinally concentrically ribbed, ribs narrow, interstices neatly cancellated with fine spiral ridges; aperture small, rounded, sinuated at each end.

Philippi, Abbild. und Besch. Conch. vol. iii. p. 56. pl. 5. f. 3.

Hab. Brazil.

One of the most narrowly elongated of the Brazilian species, very neatly sculptured throughout with curved longitudinal fine ribs, following in regular concentric order, neatly cancellated in the interstices.

Species 200. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Melania fusca. *Mel. testâ pyramidali-turritâ, solidissimâ, fulvo-castaneâ, anfractibus novem ad decem, primis paucis obliquè granoso-plicatis, cæteris spiraliter liratis, et conspicuè acutè bicarinatis, carinis distantibus; aperturâ ovatâ, utrinque sinuatâ.*

The brown Melania. Shell pyramidally turreted, very solid, fulvous-chestnut, whorls nine to ten, the first few obliquely granosely plicated, the rest spirally ridged, and conspicuously sharply two-keeled, keels distant; aperture ovate, sinuated at each end.

Murex fuscus, Gmelin, Syst. Nat. p. 3561.

Hab. Senegal.

A solid, pyramidally turreted shell, remarkably characterized by the prominence of winding keels, which are not present in the early whorls, their place being occupied by oblique folds of well-defined granules.

Species 201. (Mus. Cuming.)

Melania scarabus. *Mel. testâ ovato-conicâ, versus basin obeso-gibbosâ, crassissimâ, intensè nigrâ, anfractibus perpaucis, declivi-convexis, undique creberrimè sulcatis, liris obsoletè striato-crenulatis, anfractu ultimo ad aperturam crassè ascendente; aperturâ ovatâ, utrinque latè sinuatâ.*

The beetle Melania. Shell ovately conical, stoutly

February, 1860.

gibbous towards the base, very thick, intense-black, whorls very few, slopingly convex, very closely grooved throughout, ridges obsoletely striately crenulated, last whorl thickly ascending at the aperture; aperture ovate, broadly sinuated at each end.

Hab. River Maranon, North Brazil.

A very characteristic new species, peculiarly distinguished by the bold, stoutly gibbous growth of the last whorl, and very close spiral grooving.

Species 202. (Mus. Cuming.)

Melania nicotiana. *Mel. testâ elongato-turritâ, solidiusculâ, fulvo-olivaceâ, anfractibus subnumerosis, declivi-planatis, undique spiraliter crebri-sulcatis, concentricè tenuiplicatis, plicis subobsoletis, versus apicem distinctis; aperturâ parviusculâ, parum sinuatâ.*

The cigar Melania. Shell elongately turreted, rather solid, fulvous-olive, whorls rather numerous, slopingly flattened, closely spirally grooved throughout, concentrically finely plicated, plaits rather obsolete, distinct towards the apex; aperture rather small, but little sinuated.

Hab. Brazil.

The sculpture of this species is quite distinct from the other two in this Plate of similar form. The surface is closely spirally grooved throughout, and the concentric plaits are very irregular, becoming less defined as they are more removed from the apex.

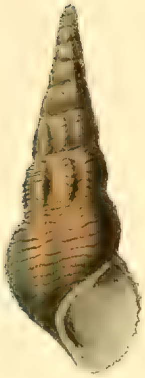
Species 203. (Fig. *a*, *b*, Mus. Cuming.)

Melania Batesii. *Mel. testâ obeso-ovatâ vel elongatâ, crassiusculâ, anfractibus declivi-convexis, lævigatis, obscurè superficialiter spiraliter sulcatis; aperturâ ovatâ.*

Bates's Melania. Shell stoutly ovate or elongated, rather thick, whorls slopingly convex, smooth, obscurely superficially spirally grooved; aperture ovate.

Hab. Mouth of the Amazon; Bates.

Distinguished chiefly by the simplicity of its characters. The grooving presents a curious contrast with that of the species figured above it, being quite superficial.



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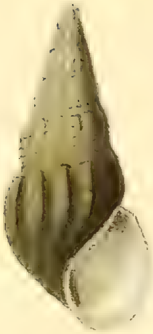

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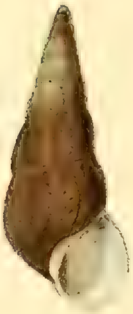

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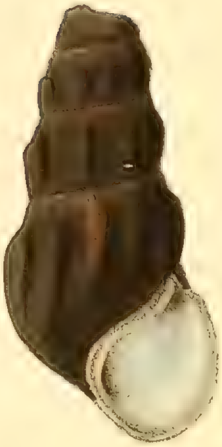

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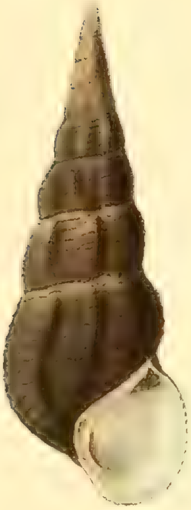

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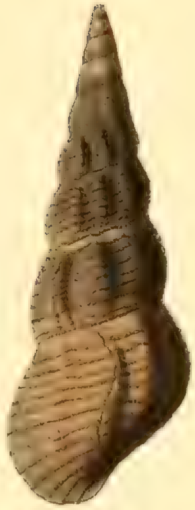

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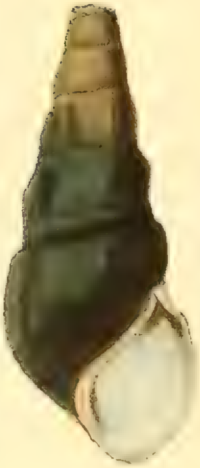

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MELANIA.

Plate XXXI.

Species 204. (Mus. Cuming.)

Melania variabilis. *Mel. testâ subulato-turritâ, virescente-olivaceâ, anfractibus spiraliter subobsoletè funiculatis, supernè concavo-angulatis, deinde plicato-costatis, costis in anfractibus ultimo et penultimo ad angulum subacutè tuberculatis, versus aperturam gradatim evanidis; aperturâ ovatâ, columellâ calloso-effusâ.*

The variable Melania. Shell subulately turreted, greenish-olive, whorls spirally obsoletely corded, concavely angled round the upper part, then plicately ribbed, ribs of the penultimate and ultimate whorls rather sharply tubercled on the angle, gradually fading towards the aperture; aperture ovate, columella callously effused.

Benson, Journ. Asiatic Soc. 1835.

Melania Indica, Eydoux and Souleyet.

Hab. India.

The plicated ribs of this species do not commence to be sharply tubercled until the penultimate whorl.

Species 205. (Mus. Hamilton.)

Melania circumstriata. *Mel. testâ pyramidali-turritâ, polygonâ, fusco-nigrâ, anfractibus declivi-angulatis, obliquè varicoso-costatis, striis elevatis æquidistantibus undique spiraliter funiculatis; aperturâ ovatâ, calloso-effusâ.*

The striæ-encircled Melania. Shell pyramidally turreted, many-angled, brownish-black, whorls slantingly flattened, obliquely varicosely ribbed, spirally corded throughout with equidistant raised striæ; aperture ovate, callously effused.

Metcalfe, Pro. Zool. Soc. 1851, p. 73.

Hab. Borneo.

At Plate IV. I described and figured for this species a shell which Mr. Cuming had assigned to it in his collection, with the remark that it might be pronounced to be the Borneo representative of the Philippine *M. asperata.* Since then I have been fortunate enough to obtain the original types in the collection of Mr. Hamilton; and I have little doubt that Mr. Cuming's specimen is really a Philippine *M. asperata.* It will be perceived by the accompanying figures of the true *M. circumcincta* in different stages of growth, that it is a very distinct and excellent species. The shell is more sharply pyramidal, and of a polygonal form, owing to the oblique varix-like ribs which emerge from the sutures (not from the angle of a contracted concavity), and the encircling cords are more defined.

Species 206. (Mus. Cuming.)

Melania rubicunda. *Mel. testâ turriculatâ, solidiusculâ, rufescente-olivaceâ, anfractibus septem ad octo, rotundatis, lævibus, vel sub lente minutissimè striatis; aperturâ ovatâ, parviusculâ, columellâ subcallosâ.*

The ruddy Melania. Shell turriculate, rather solid, rufous-olive, whorls seven to eight, rounded, smooth or very minutely striated beneath the lens; aperture ovate, rather small, columella slightly callous.

Hab. —— ?

A small species of the *Pachycheilus* section, which cannot be referred to any of those previously described.

Species 207. (Mus. Cuming.)

Melania Brookei. *Mel. testâ obeso-turritâ, brunneo-nigricante, anfractibus lævibus vel obscurè spiraliter striatis, supernè concavis, deinde obtusè angulatis, ad angulum plicato-tuberculatis, tuberculis distantibus; aperturâ ovatâ, columellâ calloso-effusâ.*

Brooke's Melania. Shell stoutly turreted, brown-black, whorls smooth or obscurely spirally striated, concave round the upper part, then obtusely angled, plicately tubercled on the angle, tubercles distant; aperture ovate, columella callously effused.

Hab. Borneo; Lieut. Taylor.

This fine species, which I dedicate to Sir James Brooke, the late Rajah of Sarawak, is characterized by a remarkably bold design of form and sculpture.

Species 208. (Mus. V. d. Busch.)

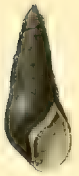
Melania sparsinodosa. *Mel. testâ subpyramidali-turritâ, fusco-nigrâ, anfractibus declivi-convexis, spiraliter striato-funiculatis, supernè concaviusculis, deinde hic illic obsoletè tuberculato-nodosis; aperturâ ovatâ, columellâ calloso-effusâ, lutescente.*

The sparingly-knotted Melania. Shell somewhat pyramidally turreted, brown-black, whorls slopingly convex, spirally striately corded, rather concave round the upper part, then here and there obsoletely tubercularly noduled; aperture ovate, columella callously effused, yellowish.

Von dem Busch, Malak. Blitter, 1858, vol. v. p. 36.

Hab. Borneo.

Of a more slender pyramidal form than the preceding species, less concave round the upper part of the whorls, and only obscurely noduled here and there. It remains for future research to determine whether these two apparently distinct forms may not be connected by intermediate varieties.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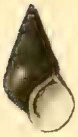
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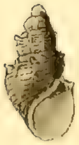
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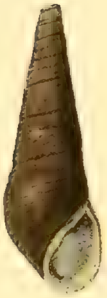
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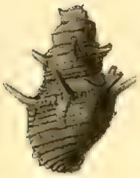
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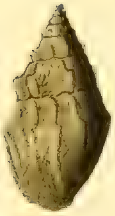
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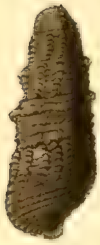
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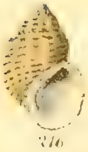
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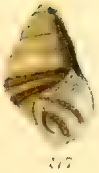
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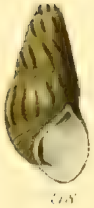
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MELANIA.

Plate XXXII.

Species 209. (Mus. V. d. Busch.)

Melania acicularis. *Mel. testâ subulatâ, solidiusculâ, nigricante-fuscâ, lævigatâ vel spiraliter tenuistriatâ, anfractibus octo ad novem, supernè concaviusculis, deinde declivi-planatis; aperturâ parvâ, ad basin sinuatâ, columellâ subcallosâ, ad basin tenuè contortâ, callositate fumeo-purpurascente.*

The acicular Melania. Shell subulate, rather solid, blackish-brown, smooth or spirally finely striated, whorls eight to nine, slightly concave round the upper part, then slopingly flattened; aperture small, sinuated at the base, columella rather callous, thinly twisted at the base, callosity smoky-purple.

Melanopsis acicularis, Pfeiffer, Rossmasler, Icon. vol. ii. pl. 50. f. 673 to 675.

This shell partakes of the characters of all three genera, *Melania*, *Melanopsis*, and *Hemisinus*, and may be referred with equal propriety to either.

Species 210. (Mus. Cuming.)

Melania nucula. *Mel. testâ ovato-conoideâ, solidiusculâ, olivaceâ, anfractibus sex ad septem, plano-declivibus, ad suturas subangulatis; aperturâ ovatâ, columellâ tenuè reflexâ, purpurascente, ad basin subeffusâ.*

The little nut Melania. Shell ovately conoid, rather solid, olive, whorls six to seven, flatly sloping, slightly angled at the suture; aperture ovate, columella thinly reflected, purplish, slightly effused at the base.

Hab. New Caledonia.

A small conoid type, of few whorls, peculiar to the habitat, of which another form, *M. crassilabrum*, is described in Plate XXXIII. at Sp. 221.

Species 211. (Mus. Cuming.)

Melania denticulata. *Mel. testâ ovato-turritâ, tenuiculâ, fulvo-fuscâ, epidermide subpilosâ indutâ, anfractibus paucis, spiraliter densè irregulariter lirato-striatis, supernè latè angulatis, ad angulum remotè minutè muricato-plicatis; aperturâ ovatâ, columellâ tenuissimè reflexâ.*

The toothed Melania. Shell ovately turreted, rather thin, fulvous-brown, covered with a slightly hairy epidermis, whorls few, spirally densely irregularly ridge-striated, broadly angled round the upper part, distantly minutely prickly plicated on the angle; aperture ovate, columella very thinly reflected.

Lea, MS. in Mus. Cuming.

Hab. Island of Negros, Philippines (in mountain streams); Cuming.

I figure this shell as named by Mr. Lea in Mr. Cuming's collection, but doubt if it is anything more than a variety of *M. scabra*.

Species 212. (Mus. Hamilton.)

Melania Metcalfei. *Mel. testâ subulato-turritâ, nigrâ aut virescente-fuscâ, interdum purpureo-nigro obscurè strigatâ, anfractibus novem ad decem, plano-declivibus, spiraliter lirato-funiculatis, liris versus apicem validis, versus aperturam subevanidis, irregularibus, suturâ distinctâ, excavatâ; aperturâ parviusculâ, ad basin rotundato-effusâ.*

Metcalfe's Melania. Shell subulately turreted, black or greenish-brown, sometimes obscurely streaked with purple-black, whorls nine to ten, flatly sloping, spirally corded with ridges, ridges towards the apex strong, towards the aperture somewhat fading and irregular, suture distinct, excavated; aperture rather small, rotundately effused.

Melania subsuturalis, Metcalfe, Pro. Zool. Soc. 1851, p. 73.

Hab. Borneo.

I feel it absolutely necessary to alter the name of this species. By some inadvertence Mr. Metcalfe named it *subsuturalis*, which means 'slightly or indistinctly sutured.' The special peculiarity of the shell is in the suture being unusually deep, as Mr. Metcalfe himself describes it: "*suturâ distinctâ, excavatâ.*"

Species 213. (Mus. Cuming.)

Melania datura. *Mel. testâ oblongo-pyramidali, fusco-nigrâ, anfractibus paucis, spiraliter acutè liratis et striatis, supernè latè concavo-angulatis, ad angulum longispinosis; aperturâ parviusculâ, fauce cærulescente, columellâ tenui, vix reflexâ.*

The given Melania. Shell oblong-pyramidal, fuscous-black, whorls few, spirally sharply ridged and striated, broadly concavely angled at the upper part, long-spined at the angle; aperture rather small, interior bluish, columella thin, scarcely reflected.

May, 1860.

Dohrn, Pro. Zool. Soc. 1858, p. 133.
Hab. Ceylon.

A boldly-developed species of the spined type described and figured in Plate XXVI.

Species 214. (Mus. Cuming.)

Melania strobilus. *Mel. testâ oblongo-conoideâ, subobesâ, fulvo-olivaceâ, spirâ breviusculâ, anfractibus septem ad octo, supernè plicato-tuberculatis, tuberculis angustis, subacutis; aperturâ parviusculâ, angustâ.*

The artichoke Melania. Shell oblong-conoid, rather stout, fulvous-olive, spire rather short, whorls seven to eight, plicately tubercled round the upper part, tubercles narrow, rather sharp; aperture rather small, narrow.

Hab. Seville.

The tubercles with which this cylindrically stout, short-spired species is coronated are sometimes prolonged into longitudinally flowing ribs.

Species 215. (Mus. V. d. Busch.)

Melania mutans. *Mel. testâ pyramidali-turritâ, subangustâ, nigricante-fuscâ, anfractibus concavo-planatis, liris validè spiraliter funiculatis, obliquè plicato-granulatis, lirâ infra suturam sæpè prominente; aperturâ parvâ, utrinque sinuatâ.*

The changing Melania. Shell pyramidally turreted, rather narrow, blackish-brown, whorls concavely flattened, strongly spirally corded with ridges, obliquely plicately granuled, ridge beneath the suture frequently prominent, aperture small, sinuated above and below.

Gould, MS. in Mus. V. d. Busch.
Hab. Cape Palmas, West Africa.

A very characteristic species, yet it passes very nearly into the Senegal *M. fusca.*

Species 216. (Mus. Cuming.)

Melania Nassa. *Mel. testâ subglobosâ, solidiusculâ, fulvescente, fulvo-fusco undique nitidè vittatâ, anfractibus quinque, rotundatis, longitudinaliter varicoso-costatis, ad suturam latè excavatis; aperturâ ovatâ, columellâ callosâ, eburneâ.*

The Nassa Melania. Shell subglobose, rather solid, pale-fulvous, neatly filleted throughout with fulvous-brown, whorls five, rounded, longitudinally varicosely ribbed, broadly excavated at the suture; aperture ovate, columella callous, ivory-white.

Woodward, Pro. Zool. Soc. 1859, pl. 47. f. 4.
Hab. Lake Tanganyika, Central Africa; Captain Speke.

A little Whelk-like species of quite a new type, collected by Captain Speke in Central Africa, on the shores of the great Lake, or rather inland sea, of Tanganyika.

Species 217. (Mus. Benson.)

Melania zonata. *Mel. testâ globoso-conoideâ, luteo-olivaceâ, fasciis duabus rufo-fuscis infernè cingulatâ, anfractibus quatuor ad quinque, declivi-rotundatis, subinflatis, lævigatis, aut longitudinaliter corrugato-striatis; aperturâ ovatâ, ad basin subeffusâ.*

The zoned Melania. Shell globosely conoid, yellowish-olive, encircled round the lower part with two bands of red-brown, whorls four to five, slopingly rounded, somewhat inflated, smooth, or longitudinally wrinkle-striated; aperture ovate, slightly effused at the base.

Benson, Journ. Asiatic Soc. 1836, vol. v. p. 747.
Hab. North-east frontier of Bengal; Benson.

Singularly enough, Mr. Benson and Dr. Von dem Busch described this shell, independently of each other, under the same name. Mr. Benson had, however, the priority by six years.

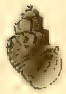
Species 218. (Mus. Cuming.)

Melania porracea. *Mel. testâ cylindraceo-turritâ, virescente-olivaceâ, nigricante promiscuè strigatâ, anfractibus convexo-declivibus, ad suturam obtusè angulatis, lævibus, supernè minutè marginatis; aperturâ ovatâ, parviusculâ, columellâ arcuato-contortâ.*

The leek Melania. Shell cylindrically turreted, greenish-olive, promiscuously streaked with black, whorls convexly sloping, obtusely angled at the suture, smooth, minutely margined round the upper part; aperture ovate, rather small, columella arcuately twisted.

Hab. ——?

This species partakes rather of the *Pachycheilus* type of the genus, and comes near to *M. murrea.* It is not of the same sharply pyramidal form.



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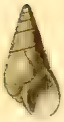

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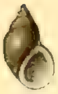

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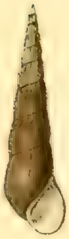

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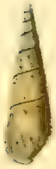

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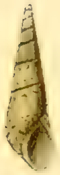

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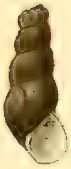

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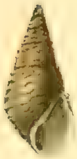

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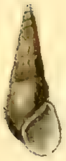

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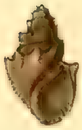

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(Figures slightly enlarged.)

MELANIA.

Plate XXXIII.

Species 219. (Mus. V. d. Busch.)

Melania granum. *Mel. testá ovato-turritá, tenui, fusco-olivaceá, rufo-brunneo obscurè punctatá, anfractibus quatuor ad quinque, liris æquidistantibus spiraliter funiculatis, supernè latè angulatis, ad angulum muricato-plicatis; aperturá ovatá.*

The grain Melania. Shell ovately turreted, thin, fuscous-olive, obscurely dotted with red-brown, whorls four to five, spirally corded with equidistant ridges, broadly angled round the upper part, prickly plicated at the angle; aperture ovate.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. i. p. 4. pl. 1. f. 7.

Hab. Java.

Distinguished from *M. scabra,* to which it has a general resemblance, in being corded throughout with rather distant ridges, which are obscurely red-dotted.

Species 220. (Mus. V. d. Busch.)

Melania pallida. *Mel. testá subulato-conoideá, solidiusculá, lutescente-olivaceá, anfractibus sex, convexo-planatis, lævibus vel minutissimè striatis; aperturá parvá, ad basin subsinuatá, columellá tenuè reflexá.*

The pale Melania. Shell subulately conoid, rather solid, yellowish-olive, whorls six, convexly flattened, smooth or very minutely striated; aperture small, slightly sinuated at the base, columella thinly reflected.

Gundlach, MS. in Mus. V. d. Busch.

Hab. Cuba.

A rather solid shell, of very simple character, smooth, but not polished, and on examination with the lens it will be found to be minutely spirally striated.

Species 221. (Mus. Cuming.)

Melania crassilabrum. *Mel. testá ovatá, crassiusculá, nigricante-olivaceá, anfractibus quatuor ad quinque, convexis, densè spiraliter sulcato-striatis; aperturá orbiculari, subobliquè effusá, labro intus incrassato, cærulescente.*

The thick-lip Melania. Shell ovate, rather thick, dark olive, whorls four to five, convex, densely spirally groove-striated; aperture orbicular, somewhat obliquely effused, lip thickened within, bluish.

Hab. New Caledonia.

In this little species the aperture is orbicularly produced in a peculiar manner, and thickened, blue-white within.

Species 222. (Mus. Cuming.)

Melania lentiginosa. *Mel. gracili-aciculari, olivaceá, punctis rufis lentiginosá, anfractibus decem ad duodecim, supra et infra spiraliter lineari-sulcatis, primis densè longitudinaliter plicatis; aperturá parvá, columellá calloso-excavatá.*

The freckled Melania. Shell slenderly acicular, olive, freckled with red dots, whorls ten to twelve, spirally linearly grooved above and below, the first whorls closely longitudinally plicated; aperture small, columella callously excavated.

Hab. —— ?

A delicately-formed well-marked species, in which the earlier whorls are closely thinly plicated.

Species 223. (Mus. Cuming.)

Melania amabilis. *Mel. testá acutè subulatá, flavicante, rufo-fusco tenuè flammatá et punctatá, anfractibus plano-declivibus, lævigatis, nitentibus; aperturá oblongo-ovatá, ad basin subsinuatá, columellá appressè arcuatá, nigro-punctatá.*

The lovely Melania. Shell sharply subulate, yellowish, delicately flamed and dotted with red-brown, whorls flatly sloping, smooth, shining; aperture oblong-ovate, a little sinuated at the base, columella appressly arched, black-spotted.

Von dem Busch, Malak. Blitt. vol. v. p. 55 (sub nomine, errore typographico, *pulchra*).

Hab. Celebes.

The aperture of this species is of an oblong diamond-shape, partaking a little of the sinuated character of *Hemisinus.*

Species 224. (Mus. Cuming.)

Melania rudens. *Mel. testá angustè turriculatá, sordidè olivaceá, anfractibus rotundatis, ad suturas constrictis, spiraliter lirato-striatis, primis validè concentricè plicatis; aperturá parvá, rotundatá.*

The cable Melania. Shell narrowly turriculated, dull-olive, whorls rounded, constricted at the sutures,

May, 1860.

spirally ridge-striated, the first strongly concentrically plicated; aperture small, rounded.

Hab. ——?

Strongly characterized by the constricted sutures and by the rib-like plications of the earlier whorls.

Species 225. (Mus. V. d. Busch.)

MELANIA GRANIFERA. *Mel. testâ acutè conoideâ, olivaceâ, fusco interdum pallidè fasciatâ, anfractibus sex ad septem, undique spiraliter liratis, liris validè verrucoso-granatis; aperturâ ovatâ, columellâ ad basin calloso-effusâ.*

THE GRAINED MELANIA. Shell sharply conoid, olive, sometimes faintly banded with brown, whorls six to seven, spirally ridged throughout, ridges strongly wart-grained; aperture ovate, columella callously effused at the base.

LAMARCK, Anim. sans vert. vol. viii. p. 433.

Hab. Timor; Lamarck.

The granulated sculpture of this species is of rather a large character, amounting almost to warts.

Species 226. (Mus. V. d. Busch.)

MELANIA INHONESTA. *Mel. acuminato-turritâ, virescente olivaceâ, infra suturas rufo-maculatâ, anfractibus octo ad novem, nitentibus, primis spiraliter lirato-striatis et concentricè plicatis, cæteris gradatim lævioribus; aperturâ parvâ, pyriformi-ovatâ.*

THE DIRTY MELANIA. Shell acuminately turreted, greenish-olive, red-spotted beneath the sutures, whorls eight to nine, shining, the first spirally ridge-striated, and concentrically plicated, the rest gradually smoother; aperture small, pyriformly ovate.

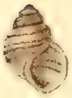
VON DEM BUSCH, Philippi, Abbild. und Besch. Conch. vol. ii. p. 170. pl. 4. f. 5.

Hab. Java.

Distinguished by a transparent-olive aspect. The earlier whorls are sculptured both spirally and concentrically, but the sculpture gradually disappears.

Fig. 227. (Mus. Cuming.)

This shell is, I fear, only a rubbed, discoloured *M. scabra*. For Species 227, see next Plate.



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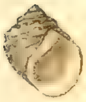

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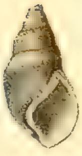

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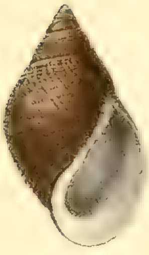

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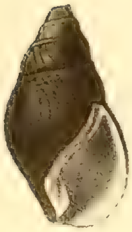

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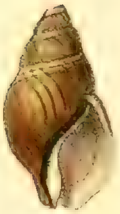

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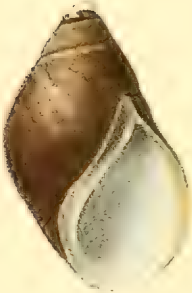

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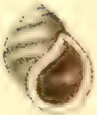

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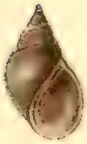

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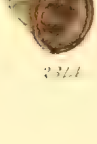


234 b

MELANIA.

Plate XXXIV.

Species 227. (Mus. V. d. Busch.)

Melania Ægyptiaca. *Mel. testâ ovatâ, Paludinæformi, luteo-olivaceâ, sublivescente, lineâ rufâ unicâ, interdum duabus, medio cinctâ, anfractibus quinque, rotundatis, longitudinaliter minutè crispato-striatis; aperturâ rotundato-ovatâ, fauce rufo-fasciatâ.*

The Egyptian Melania. Shell ovate, Paludina-shaped, yellowish-olive, somewhat livid, encircled round the middle with one, sometimes two, red lines, whorls five, rounded, longitudinally crisp-striated; aperture rotundately ovate, interior red-banded.

Benson, MS. in Mus. Cuming.

Hab. Egypt.

A small, olive-yellow, red-banded shell, with somewhat of the aspect of a *Paludina.*

Fig. 228. (Mus. Cuming.)

The shell here figured is *M. coronata*, Küster, *M. nodosa* and *macilenta*, Parreyss, but at the suggestion of Dr. Von dem Busch, and with the aid of a series of specimens from his cabinet in different stages of growth, I have no hesitation in quoting it as the young of *M. Hollandri*, Férussac, of which an adult type is represented below, at Fig. 234 *b.*

Species 229. (Mus. Cuming.)

Melania livescens. *Mel. testâ ovato-turritâ, olivaceo-luteâ, plus minus livido-plumbeo tinctâ, anfractibus quinque ad sex, lævibus, ad suturis subdeclivibus, deinde plano-rotundatis; aperturâ ovatâ, ad basin paululum effusâ, fauce partim castaneo-rufâ, labro columellari calloso.*

The livid Melania. Shell ovately turreted, olive-yellow, stained more or less with livid lead-colour, whorls five to six, smooth, rather sloping at the sutures, then flatly rounded; aperture ovate, a little effused at the base, interior partially chestnut-red, columellar lip callous.

Menke, Synopsis, second edit. p. 135.

Melania Niagarensis, Lea.

Hab. Lake Erie, Niagara Falls.

A smooth livid-lead or blue-green shell, yellowish next the sutures, partially stained with chestnut-red in the interior and on the callous columellar lip.

Species 230. (Mus. Cuming.)

Melania siccata. *Mel. testâ subfusiformi-ovatâ, ventricosâ, olivaceo-viridi, spirâ brevi, acutâ, anfractibus quinque ad sex, lævibus, ultimo multo majore, inflato, ad suturam, in juniore, nigro maculatis, in ætate interdum lineari-sulcatis; aperturâ ovali, amplâ, ad basin latè effusâ.*

The dried Melania. Shell somewhat fusiformly ovate, ventricose, olive-green, spire short, sharp, whorls five to six, smooth, the last much the larger, inflated, in younger specimens spotted with black at the suture, in age linearly grooved at the suture; aperture oval, large, broadly effused at the base.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. i p. 62. pl. 2. f. 9.

Hab. Java and the Philippine Islands.

M. siccata and *glans* represent a form of the genus of which they are the only species.

Species 231. (Fig. *a*, *b*, Mus. Cuming.)

Melania nigricans. *Mel. testâ fusiformi-turbinatâ, ad basin subampliter emarginatâ et recurvâ, crassiusculâ, olivaceâ, circa columellam nigricante, spirâ aperturam æquante, anfractibus quinque ad sex, transversim pertuso-striatis, supernè subimpressis, deinde convexis; aperturâ ovatâ, columellâ subcontortâ, ad marginem plicatâ, truncatâ.*

The dark Melania. Shell fusiformly turbinated, rather largely notched and recurved at the base, rather thick, olive, blackish about the columella, spire equalling the aperture, whorls five to six, transversely pricked-striated, slightly impressed round the upper part, then convex; aperture ovate, rather twisted, plicated at the edge, truncated.

Clea nigricans, Adams, Pro. Zool. Soc. 1855, p. 119.

Hab. Sarawak, Borneo; Brooke.

An interesting *Buccinum*-like form of *Melania*, deeply notched and recurved at the base, collected by Sir James Brooke in the river at Sarawak.

Species 232. (Mus. Cuming.)

Melania glans. *Mel. testâ subfusiformi-ovatâ, ventricosâ, crassiusculâ, olivaceo-viridi, transversim obscurè* *nigro-lineatâ, interdum fuliginosâ, spirâ brevi, subimmersâ, anfractibus quinque, lævibus, supernè subcontractis, ultimo multo majore, inflato; aperturâ ovali, amplâ, ad basin latè effusâ.*

THE ACORN MELANIA. Shell somewhat fusiformly ovate, ventricose, rather thick, olive-green, transversely obscurely black-lined, sometimes dark, spire short, a little immersed, whorls five, smooth, slightly contracted at the upper part, last whorl much the larger, inflated; aperture oval, large, broadly effused at the base.

VON DEM BUSCH, Abbild. und Besch. Conch. vol. i. p. 3. pl. 1. f. 8, 9.

Hab. Java, Sumatra, Philippine Islands.

Of rather stouter growth than *M. siccata*, more broadly effused at the base.

Species 233. (Mus. V. d. Busch.)

MELANIA CORNEA. *Mel. testâ suborbiculari, sordidè lutescente, livido-plumbeo tinctâ, spirâ brevissimâ, anfractibus quatuor, lævigatis, convexis, ultimo multo majore, subinflato; aperturâ rotundato-ovatâ, columellâ arcuatâ, calloso-effusâ.*

THE HORNY MELANIA. Shell nearly orbicular, dull yellowish, stained with livid lead-colour, spire very short, whorls four, smooth, convex, the last much the larger, rather inflated; aperture rotundately ovate, columella arched, callously effused.

KÜSTER, MS. in Mus. V. d. Busch.
Melania crassa, Parreyss.

Hab. Dalmatia.

A smooth, periwinkle-like shell, of livid-horny aspect, but rather thick in substance.

Species 234. (Fig. *a*, Mus. V. d. Busch, Fig. *b*, Mus. Cuming.)

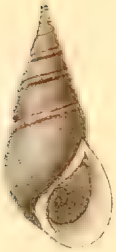
MELANIA HOLLANDRI. *Mel. testâ ovato-turbinatâ, cinereâ, cæruleo-nigricante aut griseo fasciatâ, interdum omnino brunneâ, ad columellam nitente-castaneâ, anfractibus quinque ad sex, supernè plerumque declivi-angulatis, ad angulum obscurè nodulatis; aperturâ ovatâ.*

HOLLANDER'S MELANIA. Shell ovately turbinated, ash-colour, banded with blue-black or slate, sometimes entirely brown, shining chestnut at the columella, whorls five to six, generally slopingly angled round the upper part, obscurely noduled at the angle; aperture ovate.

FÉRUSSAC, Villa Cat. 1841, p. 36.
Melania coronata, Küster.
Melania nodosa, Parreyss.
Melania macilenta, Parreyss.
Melania afra, Ziegler.
Melania enodes, Ziegler.

Hab. Illyria.

An extremely variable species, of which our two figures represent the extreme states.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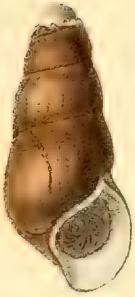
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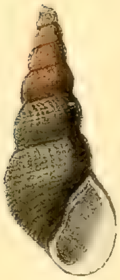
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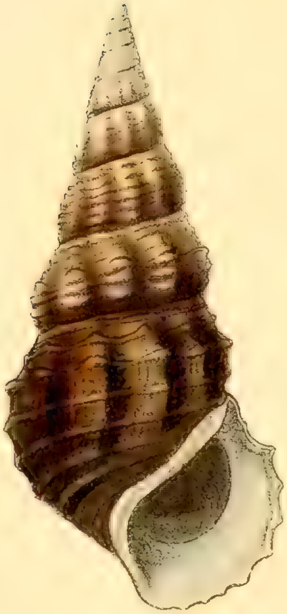
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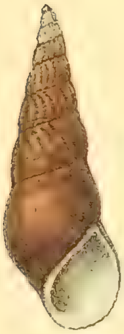
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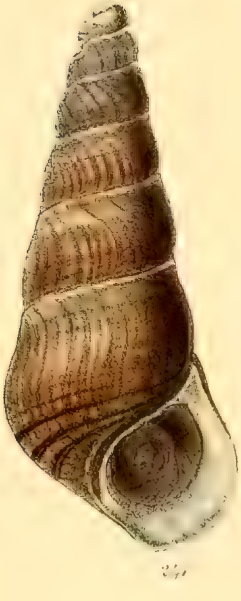
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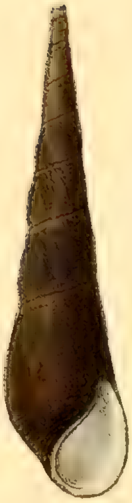

241

MELANIA.

Plate XXXV.

Species 235. (Mus. Morelet.)

Melania cinerea. *Mel. conico-turriculatâ, crassiusculâ, violaceo-cinereâ, infra suturas rufo et plumbeo fasciatâ, suturis albidis, epidermide tenui olivaceâ indutâ, spirâ acuminatâ, anfractibus novem ad decem, convexis, longitudinaliter malleatis, transversè densè minutissimè undato-striatis; aperturâ rotundato-pyriformi, columellâ supernè callosâ.*

The ash-coloured Melania. Shell conically turriculated, rather thick, violet-ash beneath the sutures, banded with red and lead-colour, sutures white, covered with a thin olive epidermis, spire acuminated, whorls nine to ten, convex, longitudinally malleated, transversely densely very minutely wave-striated; aperture rotundately pear-shaped, columella callous at the upper part.

Morelet, Test. Nov. Amer. Cent. part i. p. 26. n. 68.

Hab. Environs of Coban, Vera-Paz; Morelet.

An interesting species of the *Pachychilus* section of the genus, allied to *P. Cumingii*, Lea, described at Plate XXI. Sp. 149. This, and all the species of Plate XXXV. excepting Sp. 236, are described and figured from the original types kindly sent to me by M. Morelet.

Species 236. (Mus. Cuming.)

Melania Gassiesii. *Mel. testâ subelongato-turritâ, fulvo-olivaceâ, anfractibus subangustis, supernè declivi-concavis, deinde plano-convexis, lævigatis, sub lente minutissimè undato-striatis; aperturâ parviusculâ, ovatâ, ad basin effuso-productâ, columellâ tenuè contortâ.*

Gassies' Melania. Shell rather elongately turreted, fulvous-olive, whorls rather narrow, slopingly concave round the upper part, then flatly convex, smooth, very minutely wave-striated beneath the lens; aperture rather small, ovate, effusely produced at the base, columella thinly contorted.

Hab. Central America.

This shell, collected by M. Sallé, is certainly distinct from the few allied species already figured.

Species 237. (Mus. Morelet.)

Melania Commersoni. *Mel. testâ gracili-turriculatâ, olivaceo-viridi, subpellucidâ, anfractibus novem ad decem aut pluribus, rotundatis, ad suturas declivi-impressis, spiraliter irregulariter liratis, longitudinaliter tenuiplicatis et densè minutissimè crispato-striatis; aperturâ ovatâ, parviusculâ, columellâ ad basin intorto-effusâ.*

Commerson's Melania. Shell slenderly turriculated, olive-green, somewhat transparent, whorls nine to ten, or more, rounded, slopingly impressed at the sutures, spirally irregularly ridged, longitudinally finely plicated, and densely very minutely crisp-striated; aperture ovate, rather small, columella twistedly effused at the base.

Morelet, MS. in Mus. Morelet.

Hab. Madagascar.

In general resemblance this shell approaches *M. Newcombii*, *coarctata*, and *indefinita*, but they all differ from one another in detail of sculpture.

Species 238. (Mus. Morelet.)

Melania immanis. *Mel. testâ conico-pyramidali, solidâ, fulvo-olivaceâ, anfractibus novem ad decem, declivibus, obliquè concentricè costatis, liris subdistantibus undique spiraliter funiculatis, anfractu medio gibboso, supernè concavo, costis gradatim evanidis, sed liris tuberculatis; aperturâ ovatâ, ad basin subeffuso-productâ.*

The wonderful Melania. Shell conically pyramidal, solid, fulvous-olive, whorls nine to ten, sloping, obliquely concentrically ribbed, spirally corded throughout with rather distant ridges, last whorl gibbous in the middle, concave round the upper part, the ribs gradually disappearing but tubercled by the ridges; aperture ovate, somewhat effusely produced at the base.

Morelet, Test. Nov. Amer. Cent. part ii. p. 22. n. 139.

Hab. Central America; Morelet.

In this truly fine species the whorls are ribbed longitudinally and strongly corded tranversely, the cords passing over the ribs. The last whorl increases materially in convexity, and the ribs partially disappear, but the transverse cords are stronger, and on crossing the fading ribs they rise into tubercles.

Species 239. (Mus. Morelet.)

Melania Moreleti. *Mel. testâ acuminato-turritâ, fulvo-*

brunneâ, strigis parvis undatis nigricantibus obscurè pictâ, anfractibus novem ad decem, spiraliter lineari-sulcatis, è suturis densè plicatis, sulcis plicisque in anfractibus ultimo et penultimo, quibus obscurè liratis gradatim evanidis; aperturâ ovatâ, columellâ intorto-effusâ.

MORELET'S MELANIA. Shell acuminately turreted, fulvous-brown, obscurely painted with small waved black streaks, whorls nine to ten, spirally linearly grooved, densely plicated from the sutures, grooves and plaits gradually disappearing in the last and penultimate whorls, which are obscurely ridged; aperture ovate, columella twistedly effused.

Hab. New Caledonia.

An interesting species from New Caledonia, partaking curiously of the general typical character of those inhabiting the Rio Branca and other rivers of Guiana. The earlier whorls are encircled with equidistant linear grooves crossed by a dense puckering of folds descending concentrically from the suture; but in the penultimate whorl they commence to disappear, and instead of linear grooves, faintly raised ridges begin to be developed. I have much pleasure in naming this species after its distinguished owner, so favourably known to naturalists by his researches in Central America.

Fig. 240. (Mus. Morelet.)

This shell, received from M. Morelet with the manuscript name of *M. macrospira*, from New Caledonia, proves to be identical with Mr. Hinds' *M. aspirans*, from the Feejee Islands, described at Plate X. Sp. 53.

Species 241. (Mus. Morelet.)

MELANIA OPIPARIS. *Mel. testâ pyramidali, solidiusculâ, fulvo-olivaceâ, brunneo strigatâ et variegatâ, anfractibus octo ad novem aut pluribus, declivi-planulatis, lævigatis, ultimo ad basin liris brunneis funiculato; aperturâ ovatâ, supernè attenuatâ, infernè effusâ, columellâ calloso-reflexâ.*

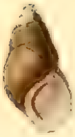
THE SUMPTUOUS MELANIA. Shell pyramidal, rather solid, fulvous-olive, stained and variegated with brown, whorls eight to nine or more, slopingly flattened, smooth, the last corded with brown ridges at the base; aperture ovate, attenuated at the upper part, effused at the lower, columella callously reflected.

MORELET, Test. Nov. Amer. Cent. part ii. p. 23. n. 140.

Hab. Guatemala.

The chief characteristic of this specimen is its want of sculpture. The species may possibly exist with some development of corded ridges in the earlier whorls.

Melania Pl. XXXVI.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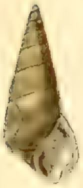
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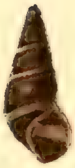
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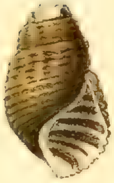
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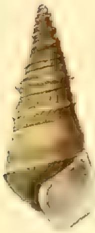
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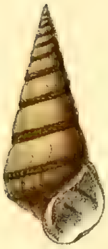
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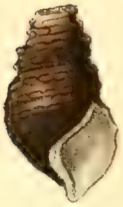
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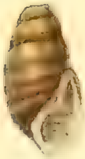
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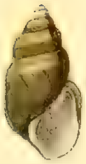
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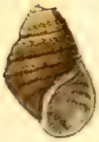
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MELANIA.

Plate XXXVI.

Species 242. (Mus. V. d. Busch.)

Melania subangulata. *Mel. testâ abbreviato-turritâ, fulvo-brunneâ, interdum fulvâ, brunneo-fasciatâ, lævigatâ, nitente, anfractibus quatuor ad quinque, supernè declivi-impressis, deinde rotundatis, longitudinaliter striatis, transversim obsoletè liratis; aperturâ parviusculâ, ovatâ, ad basin tenuè effuso-productâ.*

The slightly-angled Melania. Shell shortly turreted, fulvous-brown, sometimes fulvous, banded with brown, smooth, shining, whorls four to five, slopingly impressed at the upper part, then rounded, longitudinally striated, transversely obsoletely ridged; aperture rather small, ovate, thinly effusely produced at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 91. pl. 2. f. 9.

Hab. Tennessee, United States.

A small, shining, fulvous-brown shell, of four or five rounded whorls, copiously striated longitudinally with lines of growth, crossed transversely with very faint ridges.

Species 243. (Mus. Cuming.)

Melania viridula. *Mel. testâ pyramidali-turritâ, livido-viridi, ad suturas flavescente, anfractibus septem ad octo, declivi-planatis, lævigatis; aperturâ parvâ, labro latè sinuato, ad basin effuso-producto.*

The green Melania. Shell pyramidally turreted, livid-green, yellowish at the sutures, whorls seven to eight, slopingly flattened, smooth; aperture small, lip broadly sinuated, effusely produced at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 54. pl. 2. f. 2.

Hab. Tennessee, United States.

A smooth, narrowly turriculated shell, of a peculiarly deep green colour, conspicuously effusely produced at the base of the aperture.

Species 244. (Mus. Cuming.)

Melania gracilior. *Mel. testâ conico-turriculatâ nigrescente-fuscâ, fasciâ latâ flavescente cinctâ, suturis albidis, anfractibus octo, plano-convexis, lævibus, ultimo rotundato, supernè constricto; aperturâ parvâ, ovatâ, labro ad basin effuso-producto.*

The more slender Melania. Shell conically turriculated, blackish-brown, encircled with a broad yellow band, sutures white, whorls eight, flatly convex, smooth, last whorl rounded, constricted at the upper part; aperture small, ovate, lip effusely produced at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 129.

Hab. Congress and Springfield Lakes, Ohio, United States.

The yellow band, which is a characteristic feature of this species, is nearly covered in all but the last whorl.

Species 245. (Mus. Cuming.)

Melania cælatura. *Mel. testâ abbreviato-ovatâ, crassiusculâ, vividè olivaceâ, anfractibus quatuor ad quinque, spiraliter validè irregulariter liratis, supernè subangulato-incrassatis, ad angulum obliquè plicatis; aperturâ ovatâ, parviusculâ, columellâ ad basin calloso-effusâ.*

The embossed Melania. Shell shortly ovate, rather thick, bright olive, whorls four to five, spirally strongly irregularly ridged, slightly angularly thickened round the upper part, obliquely plicated at the angle; aperture ovate, rather small, columella callously effused at the base.

Conrad, MS. in Mus. Cuming.

Hab. Georgia, United States.

A strongly marked species, approximating in form and general character to the *Anculotus* type.

Species 246. (Mus. Cuming.)

Melania bicostata. *Mel. testâ pyramidali-turritâ, fusco-olivaceâ, crassiusculâ, anfractibus novem ad undecim, supernè declivi-concavis, deinde validissimè bicarinatis, carinâ superiore versus aperturam gradatim evanidâ, carinâ inferiore ad basin subobsoletâ; aperturâ parvâ, labro sinuato et effuso-producto.*

The double-ribbed Melania. Shell pyramidally turreted, fuscous-olive, rather thick, whorls nine to eleven, slopingly concave round the upper part, then very strongly double-keeled, upper keel gradually disappearing towards the aperture, the lower keel rather obsolete at the base; aperture small, lip sinuated and effusely produced.

September, 1860.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 56.
Hab. Tennessee, United States.

Especially characterized by its very strong screw-like double keel. Each keel grows fainter towards the aperture, but the upper one disappears the sooner.

Species 247. (Mus. Cuming.)

Melania neglecta. *Mel. testâ conico-subulatâ, tenuiculâ, fusco-stramineâ, interdum medio fasciâ nigricante-olivaceâ cingulatâ, anfractibus decem ad undecim, declivi-convexis, lævibus; aperturâ ovatâ, labro ad basin effuso-producto, columellâ calloso-reflexâ.*

The neglected Melania. Shell conically subulate, rather thin, fuscous straw-colour, sometimes encircled round the middle with a dark-olive band, whorls ten to eleven, slopingly convex, smooth; aperture ovate, lip effusely produced at the base, columella callously reflected.

Anthony, Ann. Lyc. Nat. Hist. 1854, p. 128. pl. 3. f. 29.
Hab. Great Miami River, Ohio, United States.

A fine conically subulate species, of rather light substance, frequently conspicuously dark-banded throughout upon a fuscous-yellow ground.

Species 248. (Mus. Cuming.)

Melania Hydei. *Mel. testâ conico-ovatâ, crassiusculâ, olivaceo-brunneâ, anfractibus paucis, biseriatim tuberculato-liratis; aperturâ angustè ovatâ, parvâ, columellâ contorto-effusâ, subacuminatâ.*

Hyde's Melania. Shell conically ovate, rather thick, olive-brown, whorls few, encircled with two rows of tubercular ridges; aperture narrowly ovate, small, columella twistedly effused, somewhat acuminated.

Conrad, New Freshwater Shells, p. 50. pl. 8. f. 1.
Hab. Alabama, United States.

A solid shell, encircled by two rather distant tubercular ridges, with the columella twistedly and rather acuminately effused.

Species 249. (Mus. Cuming.)

Melania pupoidea. *Mel. testâ cylindraceo-oblongâ, flavescente, olivaceo-virente variè fasciatâ, spirâ obtusè elevatâ, anfractibus quinque ad septem, longitudinaliter densè striatis; aperturâ angustè ovatâ, ad basin rotundato-effusâ.*

The pupoid Melania. Shell cylindrically oblong, yellowish, variously banded with olive-green, spire obtusely raised, whorls five to seven, longitudinally densely striated; aperture narrowly ovate, rotundately effused at the base.

Anthony, Ann. Lyc. Nat. Hist. 1854, p. 104.
Hab. Alabama, United States.

A cylindrical *Tornatella*-shaped shell, variously banded with olive-green upon a yellowish ground.

Species 250. (Mus. Cuming.)

Melania densa. *Mel. testâ ovatâ, crassâ, ponderosâ, olivaceâ, anfractibus quinque ad sex, lævibus, supernè tumido-incrassatis, obsoletè tuberculatis; aperturâ ovatâ, ad basin paululum effusâ.*

The thick Melania. Shell ovate, thick, ponderous, olive, whorls five to six, smooth, tumidly thickened round the upper part, obsoletely tubercled; aperture ovate, a little effused at the base.

Anthony, MS. in Mus. Cuming.
Hab. Tennessee, United States.

A stout ovate shell, tumidly thickened beneath the sutures, where there are faint indications of tubercles or nodules.

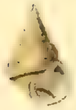
Species 251. (Mus. Cuming.)

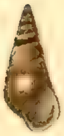
Melania decorata. *Mel. testâ abbreviato-ovatâ, crassâ, fulvâ, lineis olivaceo-brunneis cingulatâ, anfractibus quinque, declivi-convexis, liris nodulosis undique funiculatis; aperturâ ovatâ, ad basin paululum effusâ.*

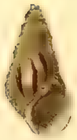
The decorated Melania. Shell shortly ovate, thick, fulvous, encircled with olive-brown lines, whorls five, slopingly convex, corded throughout with noduled ridges; aperture ovate, a little effused at the base.

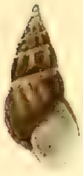
Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 55.
Hab. Oostanulla River, Georgia, United States.

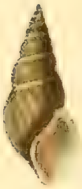
Mr. Anthony describes having collected two hundred specimens of this species in the above-named locality seven years before describing it, thinking it to be the young of *M. cælatura.*

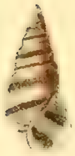








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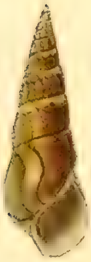

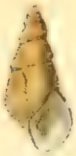

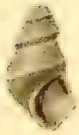
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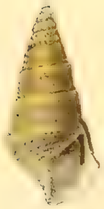
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MELANIA.

Plate XXXVII.

Species 252. (Mus. Cuming.)

Melania conica. *Mel. testâ fusiformi-conica, medio gibbosâ, spirâ acutè attenuatâ, luteo-olivaceâ, interdum rufo-fasciatâ, anfractibus octo ad novem, perangustis, convexis, medio interdum concavis; aperturâ parvâ, labro sinuato et effuso-producto.*

The conical Melania. Shell fusiformly conic, gibbous in the middle, spire sharply attenuated, yellowish-olive, sometimes banded with red, whorls eight to to nine, very narrow, convex, sometimes concave in the middle; aperture small, lip sinuated and effusely produced.

Say, Journ. Acad. Nat. Sci. Philadelphia, vol. ii. p. 176.
Hab. Wabash River, Missouri, United States.

Chiefly distinguished by its gibbous bulbous base and sharply conically tapering spire.

Species 253. (Mus. V. d. Busch.)

Melania tecta. *Mel. testâ subulato-conicâ, nigro-fuscâ, infra suturas luteo-marginatâ, anfractibus septem ad octo, planis, infernè declivi-carinatis; aperturâ parvâ, ovatâ, labro subeffuso, collumellâ purpureo-fuscâ, tenuè reflexâ.*

The covered Melania. Shell subulately conical, dark-brown, yellow-edged beneath the sutures, whorls seven to eight, flat, sloping, keeled round the lower part; aperture small, ovate, lip slightly effused, columella purple-brown, thinly reflected.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 105. pl. 3. f. 4.
Hab. Ohio.

Of a peculiar dark-brown colour, sometimes obscurely red-banded, yellow-edged beneath the sutures, the whorls sloping to a more or less indistinct keel.

Species 254. (Mus. Cuming.)

Melania occulta. *Mel. testâ conico-ovatâ, fuscescente-fulvâ, fusco tinctâ aut variè fasciatâ, anfractibus sex ad septem, convexis, lævibus, suturis subimpressis; apertura ovatâ, ad basin subattenuato-effusâ, columellâ tenuè reflexâ.*

The hidden Melania. Shell conically ovate, brownish-fulvous, stained or variously banded with brown, whorls six to seven, convex, smooth, sutures rather impressed; aperture ovate, somewhat attenuately effused at the base, columella thinly reflected.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 57.
Hab. Wisconsin, United States.

Of a simple *Bulimus*-form, ovate, without keel or sculpture.

Species 255. (Mus. Cuming.)

Melania paucicosta. *Mel. testâ acuminato-ovatâ, virescente, fusco-olivaceo latè tinctâ, spirâ obtusè elevatâ, anfractibus septem ad octo, fortiter varicoso-costatis, costis in anfractibus ultimo et penultimo evanidis; aperturâ ovatâ, parum effusâ, columellâ tenuissimè reflexâ, purpurascente.*

The few-ribbed Melania. Shell acuminately ovate, greenish, broadly stained with fuscous-olive, spire obtusely raised, whorls seven to eight, strongly varicosely ribbed, ribs disappearing on the last and penultimate whorls; aperture ovate, but little effused, columella very thinly reflected, purplish.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 57.
Hab. Tennessee, United States.

The spire of this species has a peculiar, pinched, pupoid growth.

Species 256. (Mus. Cuming.)

Melania inornata. *Mel. testâ acuminato-oblongâ, tenui, pellucido-viridi, lividâ, ad suturas luteo-marginatâ, anfractibus octo, primis perpaucis carinatis, cæteris convexis, lævibus; aperturâ ovatâ, parum effusâ, columellâ tenuissimè reflexâ.*

The unadorned Melania. Shell acuminately oblong, thin, transparent-green, livid, yellow-edged at the sutures, whorls eight, the first few keeled, the rest convex, smooth; aperture ovate, but little effused, columella very thinly reflected.

Anthony, MS. in Mus. Cuming.
Hab. United States.

A simple, semitransparent, olive-green shell, encircled near the apex with a keel, which speedily disappears.

Species 257. (Mus. Cuming.)

Melania pulchella. *Mel. testâ acuminato-ovatâ, luteo-*

September, 1860.

albidâ, purpureo-rufo latè bifasciatâ, anfractibus septem, convexis, lævibus; aperturâ ovatâ, columellâ tenuè reflexâ.

The pretty Melania. Shell acuminately ovate, yellowish-white, encircled by two broad purple-red bands, whorls seven, convex, smooth; aperture ovate, columella thinly reflected.

Anthony, MS. in Mus. Cuming.

Hab. United States.

Conspicuously encircled by two broad rich purple-red bands.

Species 258. (Mus. Cuming.)

Melania athleta. *Mel. testâ acuminato-turritâ, fulvo-brunneâ, infra suturas pallidâ, anfractibus decem, plano-convexis, primis perpaucis varicoso-costatis, cæteris lævibus; aperturâ ovatâ, columellâ tenuè reflexâ, ad basin subattenuato-effusâ.*

The athlete Melania. Shell acuminately turreted, fulvous-brown, pale beneath the sutures, whorls ten, flatly convex, the rest smooth; aperture ovate, columella thinly reflected, rather attenuately effused at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 83. pl. 2. f. 1.

Hab. Tennessee, United States.

An acuminately turreted fulvous-brown shell, varicosely ribbed near the apex. The ribs disappear at about the fifth or sixth whorl.

Species 259. (Mus. Cuming.)

Melania imbricata. *Mel. testâ acuminato-conicâ, flavescente-olivaceâ, anfractibus septem ad octo, plano-declivibus, infernè subobsoletè bicarinatis, anfractu ultimo convexiore, carinis evanidis; aperturâ ovatâ, columellâ ad basin tenuè effusâ.*

The imbricated Melania. Shell acuminately conical, yellowish-olive, whorls seven to eight, flatly sloping, encircled round the lower part with two rather obsolete keels, last whorl more convex, the keels disappearing; aperture ovate, columella thinly effused at the base.

Anthony, Ann. Lyc. Nat. Hist. 1854, p. 105.

Hab. Alabama, United States.

Of a characteristic yellowish-olive colour, the earlier whorls being conspicuously sloped, the slope encircled at the base by two rather obsolete keels.

Species 260. (Mus. V. d. Busch.)

Melania pagodiformis. *Mel. testâ abbreviato-turritâ, olivaceâ, anfractibus sex ad septem, plano-declivibus, infernè peracutè unicarinatis; aperturâ ovatâ, columellâ tenuè reflexâ, ad basin attenuato-effusâ.*

The pagoda-shaped Melania. Shell shortly turreted, olive, whorls six to seven, flatly sloping, very sharply keeled round the lower part; aperture ovate, columella thinly reflected, attenuately effused at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 106. pl. 3. f. 6.

Hab. Battle Creek, Tennessee, United States.

The whorls of this species have a very strongly defined slope throughout, ending in a prominent keel.

Species 261. (Mus. Cuming.)

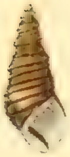
Melania gradata. *Mel. testâ fusiformi-pyramidali, solidâ, flavicante-olivaceâ aut virente, anfractibus septem ad octo, supernè marginatis, deinde latè concavis, lævibus, suturis immersis, anfractu ultimo ad basin conspicuè spiraliter lirato; aperturâ oblongâ, columellâ subelongatâ, canaliculato-effusâ.*

The flight of steps Melania. Shell fusiformly pyramidal, solid, yellowish-olive, or green, whorls seven to eight, margined round the upper part, then broadly concave, smooth, sutures immersed, last whorl conspicuously spirally ridged at the base; aperture oblong, columella rather elongated, canaliculately effused.

Anthony, Ann. Lyc. Nat. Hist. 1854, p. 112.

Hab. Alabama.

The form of this species is that of a fusiform pyramid of which the sides are concave on each whorl, and the whorls are so margined round the upper part as to form a flight of steps to the apex.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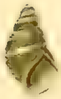
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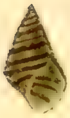
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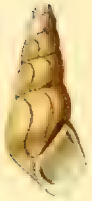
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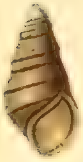
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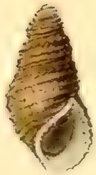
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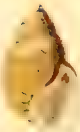
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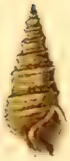
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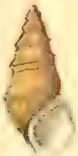
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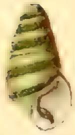
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MELANIA.

Plate XXXVIII.

Species 262. (Mus. Cuming.)

Melania vittata. *Mel. testâ acuminato-conicâ, subglabratâ, virente-olivaceâ, anfractibus octo ad novem, liris brunneis tribus, quarum medianâ in angulum productâ, cingulatis, suturis subimpressis; aperturâ parviusculâ, fauce fusco-fasciatâ, columellâ ad basin tenuè effusâ.*

The filleted Melania. Shell acuminately conical, rather smooth, greenish-olive, whorls eight to nine, encircled with three brown ridges, the middle of which is produced into an angle, sutures somewhat impressed; aperture rather small, brown-banded within, columella thinly effused at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 89. pl. 2. f. 7.

Hab. Alabama, United States.

There are four revolving brown ridges in this species, but the lowest is covered in all but the last whorl by the overlapping of one whorl upon the other. The uppermost ridge is in some species slightly plicately beaded. Their elevation diminishes towards the aperture, until they become lines simply.

Species 263. (Mus. Cuming.)

Melania brevispira. *Mel. testâ acuminato-ovatâ, olivaceâ, subpellucidâ, anfractibus quinque ad sex, declivi-convexis, lævibus; aperturâ oblongo-ovatâ, columellâ tenuè reflexâ, ad basin subacuminato-effusâ.*

The short-spire Melania. Shell acuminately ovate, olive, rather transparent, whorls five to six, slopingly convex, smooth; aperture oblong-ovate, columella thinly reflected, rather acuminately effused at the base.

Anthony, MS. in Mus. Cuming.

Hab. Tennessee, United States.

A simple keel-less species, of few whorls.

Species 264. (Mus. Cuming.)

Melania nigrocincta. *Mel. testâ ovato-conicâ, medio subventricosâ, fulvo-olivaceâ, fasciis duabus nigro-fuscis, in anfractu ultimo quatuor, cinctâ, anfractibus quinque ad sex, lævibus, declivi-angulatis, angulo versus aperturam gradatim evanido; aperturâ oblongo-ovatâ, columellâ tenuè reflexâ, ad basin effusâ.*

The black-banded Melania. Shell ovately conical, rather ventricose in the middle, fulvous-olive, encircled with two black-brown bands, in the last whorl with four, whorls five to six, smooth, slopingly angled, angle gradually fading towards the aperture; aperture oblong-ovate, columella thinly reflected, effused at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 90.

Hab. Tennessee, United States.

A short ventricose species, encircled with four black bands, of which the two middle ones rather approximate, but the whorls yet overlap between them, hiding the two lower from the two upper bands in all but the last whorl.

Species 265. (Mus. V. d. Busch.)

Melania bicolor. *Mel. testâ turriculatâ, subangustâ, fulvo-olivaceâ, infra suturas pallidiore, anfractibus sex ad octo, declivi-convexis, undique concentricè plicato-striatis; aperturâ parviusculâ, labro sinuato et effuso.*

The two-coloured Melania. Shell turriculated, rather narrow, fulvous-olive, paler beneath the sutures, whorls six to eight, slopingly convex, concentrically plicately striated throughout; aperture rather small, lip sinuated and effused.

Anthony, MS. in Mus. V. d. Busch.

Hab. United States.

The shell here figured was received by Dr. Von dem Busch from Mr. Anthony with the above name attached to it in manuscript. The only variation of colour in the specimen consists in its being paler next the sutures.

Species 266. (Mus. Cuming.)

Melania apis. *Mel. testâ conico-ovatâ, solidiusculâ, olivaceo-brunneâ, anfractibus quinque ad septem, convexis, liris obtusis subdistantibus quatuor cingulatis; aperturâ ovatâ, margine rufo-nigricante.*

The bee Melania. Shell conically ovate, rather solid, olive-brown, whorls five to seven, convex, encircled with four rather distant obtuse ridges; aperture ovate, margin reddish-black.

Hab. Vera Cruz, Mexico.

Although resembling the Tennessee *Melaniæ*, there is a characteristic typical difference in the colouring of *M. apis.*

September, 1860.

Species 267. (Mus. Cuming.)

Melania occata. *Mel. testâ ovatâ, virente-olivaceâ, anfractibus quinque ad septem, supernè concavo-declivibus, deinde convexis, liris tuberculatis perangustis undique carinatis; aperturâ ovatâ, ad basin sinuato-effusâ, columellâ tenuè reflexâ, cærulescente.*

The harrowed Melania. Shell ovate, greenish-olive, whorls five to seven, concavely sloping round the upper part, then convex, keeled throughout with very narrow tubercled ridges; aperture ovate, sinuately effused at the base, columella thinly reflected, bluish.

Hinds, Ann. and Mag. Nat. Hist. vol. xiv. p. 8.
Melania Shastaensis, Lea.

Hab. River Sacramento, California.

Chiefly distinguished by its sharply defined sculpture of narrow tubercularly festooned ridges.

Species 268. (Mus. V. d. Busch.)

Melania rarinodosa. *Mel. testâ ovato-turbinatâ, olivaceâ, obscurè latifasciatâ, anfractibus quinque ad sex, plano-convexis, supernè tumidis et obsoletè nodosis; aperturâ ovatâ, columellâ intorto-effusâ.*

The rare-noduled Melania. Shell ovately turbinated, olive, obscurely broad-banded, whorls five to six, flatly convex, obtusely swollen and obsoletely noduled round the upper part; aperture ovate, columella twistedly effused.

Anthony, MS. in Mus. Von dem Busch.

Hab. United States.

Rather a doubtful species, received by Dr. Busch from Mr. Anthony with the above name in manuscript.

Species 269. (Mus. Cuming.)

Melania bella. *Mel. testâ conico-turritâ, brunnescente-olivaceâ, anfractibus septem ad octo, convexis, tricarinatis, carinâ medianâ angulato-productâ, superâ nitidè gemmatâ, carinis versus aperturam gradatim evanidis; aperturâ ovatâ, ad basin tenuè effusâ.*

The pretty Melania. Shell conically turreted, brownish-olive, whorls seven to eight, convex, encircled with three keels, the middle one angularly produced, the upper neatly beaded, keels gradually fading towards the aperture; aperture ovate, columella thinly effused at the base.

Conrad, MS. in Mus. Cuming.

Hab. Georgia, United States.

An interesting species, to which our figure scarcely does justice. Its principal characteristic consists in the whorls being encircled above the prominent central keel by an interrupted keel, or rather necklace of fine beads. It approaches rather near to Lamarck's *M. carinifera.*

Species 270. (Mus. Cuming.)

Melania rigida. *Mel. testâ acutè turritâ, fulvo-olivescente, nigro variè fasciatâ, anfractibus octo ad novem, acutè tricarinatis, carinâ medianâ multo prominente; aperturâ ovatâ, parviusculâ, columella tenuè reflexâ, ad basin canaliculato-effusâ.*

The rigid Melania. Shell sharply turreted, fulvous-olive, variously banded with black, whorls eight to nine, sharply three-keeled, the middle keel much the most prominent; aperture ovate, rather small, columella thinly reflected, canaliculately effused at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 62.

Hab. Tennessee, United States.

A sharply keeled, prettily banded species, more rigid and acuminated in growth than *M. bella*, while the uppermost keel is not broken into beads as in that species.

Species 271. (Mus. Cuming.)

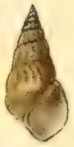
Melania tenebrocincta. *Mel. testâ conico-ovatâ, fulvescente, olivaceo-nigro latifasciatâ, anfractibus sex ad septem, lævibus, plano-declivibus, parum convexis; aperturâ parviusculâ, ovatâ, columellâ tenuè reflexâ, ad basin sinuato-effusâ.*

The dark-banded Melania. Shell conically ovate, yellowish, encircled with a broad black band, whorls six to seven, smooth, flatly sloping, but little convex; aperture rather small, ovate, columella thinly reflected, sinuately effused at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 58.

Hab. Tennessee, United States.

A rather obtusely conical shell, encircled with an unusually broad black band.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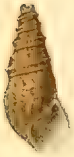
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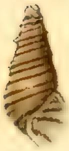
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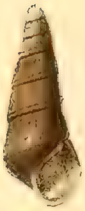
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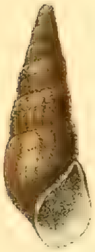
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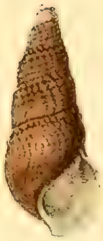
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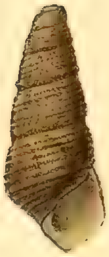
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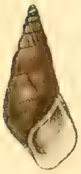
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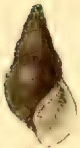
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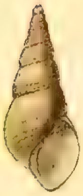
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MELANIA.

Plate XXXIX.

Species 272. (Mus. Cuming.)

Melania costulata. *Mel. testâ acuminato-conicâ, flavescente-olivaceâ, anfractibus octo, primis perpaucis carinatis, cæteris rotundatis, supernè longitudinaliter plicato-costatis; aperturâ ovatâ, columellâ ad basin tenuè canaliculato-effusâ.*

The finely ribbed Melania. Shell acuminately conical, yellowish-olive, whorls eight, the first few keeled, the rest rounded, longitudinally plicately ribbed round the upper part; aperture ovate, columella thinly canaliculately effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 39.
Hab. Tennessee, United States.

Characteristically sculptured with somewhat irregular wrinkle-like ribs running down from the suture over the upper half of each whorl.

Species 273. (Fig. *a*, *b*, Mus. Cuming.)

Melania carinifera. *Mel. turriculatâ, virescente-olivaceâ aut fulvâ, fasciis purpureo-rufis interdum cingulatâ, anfractibus septem ad octo, declivi-convexis, infernè carinis duabus cingulatis, carinâ gemmatâ interdum supra; aperturâ ovatâ, columellâ ad basin tenuè effusâ.*

The keeled Melania. Shell turriculated, greenish-olive, or yellowish, sometimes encircled with purple-red bands, whorls seven to eight, slopingly convex, encircled round the lower part with two keels, with sometimes a beaded keel above them; aperture ovate, columella thinly effused at the base.

Lamarck, Anim. sans vert. vol. viii. p. 433.
Hab. Georgia, United States.

Encircled above the suture with two rather prominent keels, and beneath the suture with, sometimes, a keel of fine beads.

Species 274. (Mus. Cuming.)

Melania acuta. *Mel. testâ acuminato-turritâ, solidiusculâ, fulvo-olivaceâ, anfractibus octo ad decem, plano-declivibus, densè concentricè striatis, sulco unico lineari infernè cinctis; aperturâ ovatâ, parviusculâ, columellâ tenuè reflexâ, ad basin sinuato-effusâ.*

The acute Melania. Shell acuminately turreted, rather solid, fulvous-olive, whorls eight to ten, flatly sloping, densely concentrically striated, encircled round the lower part with a linear groove; aperture ovate, rather small, columella thinly reflected, sinuately effused at the base.

Lea, Trans. Amer. Phil. vol. iv. pl. 15. f. 32.
Hab. Georgia, United States.

A rather solid *Terebra*-like shell, carved throughout with close-set concentric striæ, and sculptured above the suture with a single linear groove.

Species 275. (Mus. Cuming.)

Melania proxima. *Mel. testâ elongato-turbinatâ, virescente-olivaceâ, purpureo-fusco sparsè fasciatâ, anfractibus octo ad novem, plano-convexis, lævibus, supernè tumidiusculis; aperturâ ovatâ, columellâ ad basin tenuè effusâ.*

The allied Melania. Shell elongately turbinated, greenish-olive, sparingly banded with purple-brown, whorls eight to nine, flatly convex, smooth, slightly swollen round the upper part; aperture ovate, columella thinly effused at the base.

Say, Journ. Acad. Nat. Sci. Philadelphia, vol. v. p. 126.
Hab. Alabama.

Approaching to the *Hemisinus* type of the group.

Species 276. (Mus. Cuming.)

Melania nodulosa. *Mel. testâ obtusè subulatâ, brunnescente-olivaceâ, anfractibus septem ad octo, declivi-convexis, supernè decussatim plicato-nodulosis; aperturâ ovatâ, columellâ ad basin tenuè effusâ.*

The noduled Melania. Shell obtusely subulate, brownish-olive, whorls seven to eight, slopingly convex, decussately plicately noduled round the upper part; aperture ovate, columella thinly effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 57.
Hab. Tennessee, United States.

There is an approximation to the Guiana type of *Melania* in this species, exemplified in the nodular decussation of transverse ridges over folds running down from the suture.

Species 277. (Mus. Cuming.)

Melania Brumbyi. *Mel. testâ pyramidali, crassiusculâ,*

September, 1860.

ustulato-olivaceâ, ad suturas fulvescente, anfractibus octo ad decem, carinis tenuibus undique funiculatis, ad suturas canaliculatis, interstitiis crispato-striatis; aperturâ subangustè ovatâ, columellâ rufo-purpureâ, contorto-appressâ, ad basin acuminato-sinuatâ.

BRUMBY'S MELANIA. Shell pyramidal, rather thick, burnt-olive, fulvous at the sutures, whorls eight to ten, corded with fine keels throughout, channelled at the sutures, interstices crisp-striated; aperture rather narrowly ovate, columella reddish-purple, twistedly appressed, acuminately sinuated at the base.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 30. f. 5.

Hab. Alabama, United States.

This fine species presents almost a new type of *Melania*. It is a closely keeled pyramidal shell, of a peculiar burnt-olive colour, tinged with reddish-purple about the columella, which is curiously twistedly appressed.

Species 278. (Mus. Cuming.)

MELANIA DESHAYESIANA. *Mel. testâ acuminato-ovatâ, ad apicem elevatâ, sordidè olivaceâ, anfractibus declivi-tumidis, primis paucis longitudinaliter plicatis, plicis cito evanidis, transversim liratis, liris versus aperturam obsoletis; aperturâ ovatâ, supernè subcontractâ, columellâ ad basin tenuè effusâ.*

DESHAYES' MELANIA. Shell acuminately ovate, raised at the apex, dull-olive, whorls slopingly tumid, the first few longitudinally plicated, plaits soon disappearing, transversely ridged, ridges obsolete towards the aperture; aperture ovate, rather contracted, at the upper part, columella thinly effused at the base.

Hab. Tennessee, United States.

The whorls of this species are swollen in a sloping manner towards the upper part, and the spire is acuminately raised at the apex. The first few whorls are decussately sculptured, but the sculpture soon becomes obsolete.

Species 279. (Mus. Cuming.)

MELANIA RUFESCENS. *Mel. testâ ovatâ, rufescente-olivaceâ, anfractibus sex, plicis longitudinalibus striisque transversis plus minus obsoletè decussatis; aperturâ oblongo-ovatâ, columellâ ad basin effusâ.*

THE RUFOUS MELANIA. Shell ovate, reddish-olive, whorls six, more or less obsoletely decussated with transverse ridges and longitudinal plaits; aperture oblong-ovate, columella effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 8.

Hab. Tennessee, United States.

There is a decussated sculpture in this species, but it is almost obliterated.

Species 280. (Mus. Cuming.)

MELANIA ALTIPETA. *Mel. testa subfusiformi-acuminatâ, flavescente-olivaceâ, glabrâ, anfractibus novem ad decem, declivi-convexis, tenuè spiraliter liratis, liris versus aperturam obsoletis; aperturâ angustè ovatâ, columellâ tenuè reflexâ, ad basin effuso-productâ.*

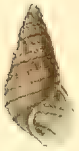
THE SLENDER MELANIA. Shell somewhat fusiformly acuminated, yellowish-olive, smooth, whorls nine to ten, slopingly convex, finely spirally ridged, ridges obsolete towards the aperture; aperture narrowly ovate, columella thinly reflected, effusely produced at the base.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 87.

Hab. Ohio, United States.

Of a pale yellowish-olive colour and rather fusiformly acuminated growth, encircled towards the apex with fine ridges.

Melania Pl XI.



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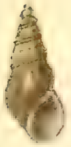

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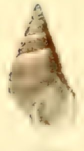

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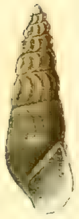

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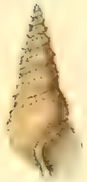

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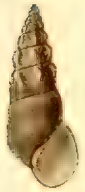

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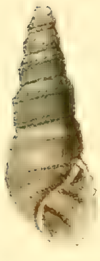

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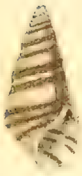

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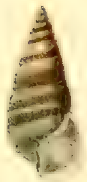

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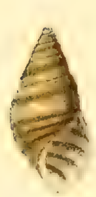

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Plate XL.

Species 281. (Mus. Cuming.)

Melania laqueata. *Mel. testâ conico-ovatâ, olivaceo-virente, fasciis duabus vel tribus purpureo-fuscis cingulatâ, anfractibus septem, obliquè plicato-costatis, interstitiis spiraliter liratis, costis lirisque versus aperturam evanidis; aperturâ ovatâ, columellâ ad basin canaliculato-effusâ.*

The fluted Melania. Shell conically ovate, olive-green, encircled with two or three purple-brown bands, whorls seven, obliquely plicately ribbed, interstices spirally ridged, ribs and ridges fading towards the aperture; aperture ovate, columella canaliculately effused at the base.

Say, Amer. Conch. pl. 47. f. 1.

Hab. United States.

Strongly obliquely plaited with ribs, the interstices between which are finely spirally ridged, especially towards the apex.

Species 282. (Mus. Cuming.)

Melania subcarinata. *Mel. testâ pyramidali-conicâ, olivaceâ, anfractibus septem ad octo, declivi-convexis, primis perpaucis bicarinatis, carinâ inferiori valdè prominente; aperturâ ovatâ, parviusculâ, columellâ ad basin tenuè effusâ.*

The partially-keeled Melania. Shell pyramidally conical, olive, whorls seven to eight, slopingly convex, the first few double-keeled, the lower keel very prominent; aperture ovate, rather small, columella thinly effused at the base.

Anthony, MS. in Mus. Cuming.

Hab. United States.

Very strongly pyramidally keeled, but the keels soon disappear.

Species 283. (Mus. Cuming.)

Melania cuspidata. *Mel. testâ acutè conicâ, livido-olivaceâ, pellucidâ, ad suturas albidâ, spirâ mucronatâ, anfractibus septem, convexo-planis, ad suturas subimmersis; aperturâ ovatâ, columellâ tenuè reflexâ, ad basin effusâ.*

The spear-pointed Melania. Shell sharply conical, livid-olive, transparent, whitish at the sutures, spire sharp-pointed, whorls seven, convexly flattened, slightly immersed at the sutures; aperture ovate, columella thinly reflected, effused at the base.

Anthony, MS. in Mus. Cuming.

Hab. Ohio, United States.

Chiefly distinguished by its sharply pointed spire, and by the apparent immersion of the whorls at the sutures.

Species 284. (Mus. Cuming.)

Melania plicifera. *Mel. testâ cylindraceo-elongatâ, olivaceâ, anfractibus octo ad novem, angustis, validè concentricè plicato-costatis, costis in anfractu ultimo evanidis; aperturâ oblongo-ovatâ, parviusculâ, columellâ incurvâ, parum effusâ.*

The plaited Melania. Shell cylindrically elongated, olive, whorls eight to nine, narrow, strongly concentrically plicately ribbed, ribs disappearing on the last whorl; aperture oblong-ovate, rather small, columella incurved, but little effused.

Lea, Trans. Amer. Phil. Soc. vol. vi. pl. 23. f. 10.

Hab. Columbia River, Oregon.

Distinctly characterized by its cylindrically drawn-out form, and very strong plicated ribs, which cease rather abruptly on the penultimate whorl.

Species 285. (Mus. Cuming.)

Melania perangulata. *Mel. testâ acutè turritâ, flavescente-olivaceâ, anfractibus octo, declivi-convexis, tricarinatis, carinâ medianâ valdè prominente, superâ gemmatâ, carinis in anfractu ultimo subobsoletis; aperturâ ovatâ, columellâ ad basin sinuato-effusâ.*

The strongly-angled Melania. Shell sharply turreted, yellowish-olive, whorls eight, slopingly convex, encircled with three keels, the middle keel very prominent, the uppermost beaded, keels nearly obsolete on the last whorl; aperture ovate, columella sinuately effused at the base.

Conrad, MS. in Mus. Cuming.

Hab. United States.

The sculpture of this species is similar to that of *M. bella*, more sharply and prominently developed.

Species 286. (Mus. Cuming.)

Melania Curreyana. *Mel. testâ cylindraceo-oblongâ,* *flavescente-olivaceâ, anfractibus septem ad octo, obliquè validè varicoso-costatis, costis distantibus; aperturâ ovatâ, columellâ tenuè reflexâ, effusâ.*

CURREY'S MELANIA. Shell cylindrically oblong, yellowish-olive, whorls seven to eight, obliquely strongly varicosely ribbed, ribs distant; aperture ovate, columella thinly reflected, effused.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 36.

Hab. Kentucky, United States.

Of the same type as *M. plicifera*, but the shell is less cylindrically elongated, and the ribs are more distant, and have more the character of varices.

Species 287. (Mus. Cuming.)

MELANIA MOLUCCENSIS. *Mel. testâ elongato-turritâ, pallidè olivaceâ, anfractibus septem ad novem, plano-convexis, longitudinaliter densè rugoso-striatis, supernè declivi-angulatis, ad angulum et ad suturam lirâ tenui funiculatis; aperturâ ovatâ, columellâ tenuè effusâ.*

THE MOLUCCA MELANIA. Shell elongately turreted, pale-olive, whorls seven to nine, flatly convex, longitudinally densely roughly striated, slopingly angled round the upper part, corded with a fine ridge on the angle and at the suture; aperture ovate, columella thinly effused.

QUOY, Zool. Voy. de l'Astrol. vol. iii. pl. 56. f. 22–25.

Hab. Moluccas.

A shell of light turreted growth, corded throughout at the upper and lower parts of each whorl by a neat ridge.

Fig. 288. (Mus. Cuming.)

The shell here figured is ticketed in Mr. Cuming's cabinet *M. Proteus*, Lea, but it does not agree with Mr. Lea's description or figure of that species, and may be a variety of *M. laqueata*, Say.

Species 289. (Mus. Cuming.)

MELANIA CIRCINCTA. *Mel. testâ cylindraceo-ovatâ, solidiusculâ, virescente-olivaceâ, fasciâ purpureo-nigrâ cingulatâ, anfractibus septem, declivi-convexis, minutè concentricè striatis; aperturâ ovatâ, parvâ, labro sinuato et effuso, columellâ subcalloso-reflexâ.*

THE ENCIRCLED MELANIA. Shell cylindrically ovate, rather solid, greenish-olive, encircled with a purple-black band, whorls seven, slopingly convex, minutely concentrically striated; aperture ovate, small, lip sinuous and effused, columella rather callously reflected.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 51.

Hab. Tennessee, United States.

A conspicuously banded species, of rather solid growth, with a more than usually sinuous lip.

Species 290. (Mus. Cuming.)

MELANIA PICTA. *Mel. testâ subfusiformi-ovatâ, medio ventricosâ, fulvescente, purpureo-nigro variè fasciatâ, anfractibus sex, declivi-convexis, lævibus; aperturâ oblongo-ovatâ, columellâ reflexâ, ad basin subeffusâ.*

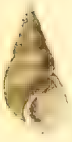
THE PAINTED MELANIA. Shell somewhat fusiformly ovate, ventricose in the middle, yellowish, variously banded with purple-black, whorls six, slopingly convex, smooth; aperture oblong-ovate, columella reflected, slightly effused at the base.

LEA, MS. in Mus. Cuming.

Hab. United States.

Distinguished by a fusiformly ovate shape, neatly banded throughout upon a warm yellowish ground.

Melania Pl. XLI.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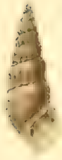
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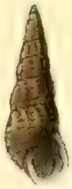
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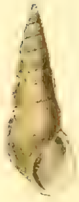
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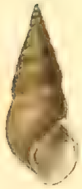
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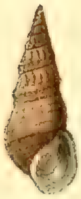
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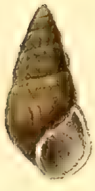
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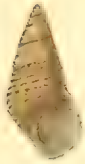
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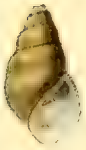
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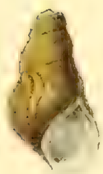
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MELANIA.

Plate XLI.

Species 291. (Mus. Cuming.)

Melania vicina. *Mel. testâ conico-ovatâ, subventricosâ, olivaceâ, anfractibus quinque ad sex, declivi-convexis, supra infraque obsoletè tumido-angulatis, obliquè striatis; aperturâ ovatâ, columellâ ad basin tenuè effusâ.*

The neighbouring Melania. Shell conically ovate, rather ventricose, olive, whorls five to six, slopingly convex, obsoletely tumidly angled above and below, obliquely striated; aperture ovate, columella thinly effused at the base.

Anthony, Ann. Lyc. Nat. Hist. 1854, p. 114.

Hab. Alabama, United States.

There is an obscure tumid angulation about the upper and lower parts of the whorls of this species which is characteristic.

Species 292. (Mus. Cuming.)

Melania decora. *Mel. testâ acuminato-turritâ, fuscescente-olivaceâ, ad suturas pallidâ, anfractibus novem ad decem, convexis, rudè plicato-costatis, primis paucis medio carinatis; aperturâ ovatâ, parvâ, columellâ ad basin tenuè effusâ.*

The graceful Melania. Shell acuminately turreted, brownish-olive, pale at the sutures, whorls nine to ten, convex, rudely plicately ribbed, the first few keeled in the middle; aperture ovate, small, columella thinly effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 38.

Hab. Niagara, United States.

Ribbed longitudinally in rather a rude tubercular manner, the ribs disappearing on the last whorl.

Species 293. (Mus. Cuming.)

Melania caliginosa. *Mel. testa pyramidali-conicâ, nigricante-olivaceâ, anfractibus novem ad decem, declivibus, longitudinaliter varicoso-costatis, transversim liratis et sulcatis, suturis impressis; aperturâ ovatâ, parviusculâ, fauce violaceo-purpureâ, columellâ subincurvâ, ad basin appressè effusâ.*

The dark Melania. Shell pyramidally conical, blackish-olive, whorls nine to ten, sloping, longitudinally varicosely ribbed, transversely ridged and grooved, sutures impressed; aperture ovate, rather small, interior violet-purple, columella rather incurved, appressly effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 56.

Hab. United States.

A dark greenish-olive, varicosely ribbed shell, distinguished by a dark violet-purple interior.

Fig. 294. (Mus. Cuming.)

The shell here figured proves to be a faintly-marked variety of the Mexican *M. Schiedeana*, described at Plate XV. Sp. 101.

Species 295. (Mus. Cuming.)

Melania Potosiensis. *Mel. testâ acuminato-conicâ, ustulato-olivaceâ, spirâ elevatâ, anfractibus decem, declivi-convexis, undique lævibus; aperturâ ovatâ, fauce purpurascente, columellâ tenuè reflexâ.*

The Potosi Melania. Shell acuminately conical, burnt-olive, spire raised, whorls ten, slopingly convex, smooth throughout; aperture ovate, purplish within, columella thinly reflected.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 47.

Hab. Potosi, Missouri, United States.

There is no sculpture whatever in this species, and the aperture and columella are coloured a delicate reddish-purple.

Species 296. (Mus. Cuming.)

Melania intertexta. *Mel. testâ acuminato-turritâ, virente-olivaceâ, ad suturas flavicante, anfractibus novem ad decem, declivi-convexis, longitudinaliter breviplicatis, spiraliter multiliratis, lirâ medianâ prominentiore; aperturâ ovatâ, columellâ ad basin tenuè effusâ.*

The woven Melania. Shell acuminately turreted, greenish-olive, yellowish at the sutures, whorls nine to ten, slopingly convex, longitudinally shortly plicated, spirally many-ridged, the middle ridge more prominent; aperture ovate, columella thinly effused at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 62.

Hab. Tennessee, United States.

The longitudinally plicated sculpture of this species is short and somewhat rude; the spiral ridges or keels vary much in strength of development.

Species 297. (Mus. Cuming.)

MELANIA MODESTA. *Mel. testâ conico-turbinatâ, crassiusculâ, olivaceâ, ad suturas pallidâ, anfractibus sex ad septem, declivibus, infernè gibboso-angulatis, ad angulum subobsoletè plicato-tuberculatis; aperturâ pyriformi-ovatâ, fauce fuscâ, columellâ ad basin appressè effusâ.*

THE MODEST MELANIA. Shell conically turbinated, rather thick, olive, pale at the sutures, whorls six to seven, sloping, gibbously angled round the lower part, rather obsoletely plicately tubercled at the angle; aperture pyriformly ovate, brown within, columella appressly effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 34.

Hab. Georgia, United States.

A somewhat stout shell, with the whorls sloping towards the lower part to an obtuse angle, on which they are rather obsoletely rudely tubercled. The specimens here figured from Mr. Cuming's cabinet, though received from America as types of this species, agree very indifferently with Mr. Lea's figure and description.

Species 298. (Mus. Cuming.)

MELANIA CATENOIDES. *Mel. testâ conico-ovatâ, flavescente-fuscâ, liris nigricantibus, linearibus æquidistantibus undique cingulatâ, anfractibus sex ad septem, plano-declivibus, ultimo inflato, medio obtusè angulato, liris undique granoso-interruptis; aperturâ oblongo-ovatâ, columellâ ad basin tenuè effusâ.*

THE CHAINED MELANIA. Shell conically ovate, yellowish-brown, encircled throughout with equidistant, dark, linear ridges, whorls six to seven, flatly sloping, the last inflated, obtusely angled in the middle, ridges granosely interrupted throughout; aperture oblong-ovate, columella thinly effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 60.

Hab. Georgia, United States.

A somewhat semitransparent yellowish-brown shell, encircled throughout at regular intervals with dark linear ridges, which are rather obsoletely granosely interrupted.

Species 299. (Mus. Cuming.)

MELANIA SUBSOLIDA. *Mel. testâ fusiformi-conicâ, subabbreviatâ, solidâ, olivaceo-virente, anfractibus sex, declivi-convexis, lævibus; aperturâ oblongo-ovatâ, subamplâ, fauce cærulescente, purpureo-tinctâ, columellâ reflexâ, ad basin appressè effusâ.*

THE SOLID MELANIA. Shell fusiformly conical, rather short, solid, olive-green, whorls six, slopingly convex, smooth; aperture oblong-ovate, rather large, interior bluish, purple-tinged, columella reflected, appressly effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 12.

Hab. United States.

A rather solid, smooth, fusiformly ovate shortly convoluted shell, with an aperture somewhat large in proportion, which in dark olive-green specimens is blue, tinged with purple.

Species 300. (Mus. Cuming.)

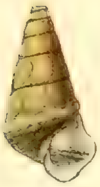
MELANIA INCURTA. *Mel. testâ subpyramidali-conicâ, flavescente-olivaceâ, anfractibus lævibus, supernè declivi-contractis, deinde rotundatis; aperturâ ovatâ, columellâ reflexâ, ad basin leviter sinuatâ.*

THE CONTRACTED MELANIA. Shell somewhat pyramidally conical, yellowish-olive, whorls smooth, slopingly contracted round the upper part, then rounded; aperture ovate, columella reflected, slightly sinuated at the base.

ANTHONY, MS. in Mus. Cuming.

Hab. United States.

All I can say of this shell is that it is in Mr. Cuming's cabinet with the above name in manuscript, alleged to have been received from Mr. Anthony.



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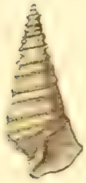

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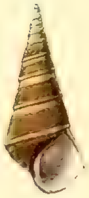

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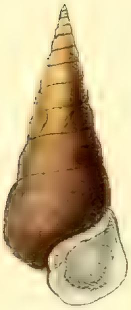

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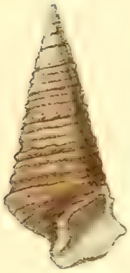

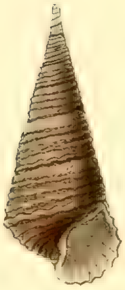

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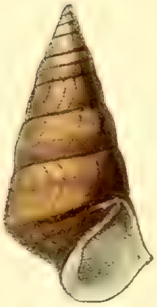
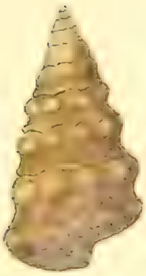
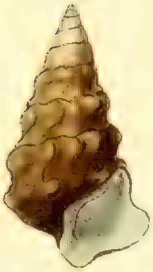
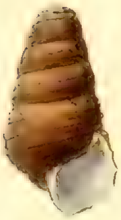








MELANIA.

Plate XLII.

Species 301. (Mus. Cuming.)

Melania infrafasciata. *Mel. testâ pyramidali-trochoideâ, virente-olivaceâ aut fuscâ, ad basin fasciâ unicâ nigricante cinctâ, anfractibus octo ad novem, declivi-concavis, arcuatim tenuistriatis, ultimo infernè acutè angulato; aperturâ ovatâ, subangustâ, columellâ contorto-incurvâ, ad basin effusâ.*

The under-banded Melania. Shell pyramidally trochoid, greenish-olive or brown, encircled with a dark band at the base, whorls eight to nine, slopingly concave, finely arcuately striated, the last sharply angled round the lower part; aperture ovate, rather narrow, columella twistedly incurved, effused at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 57.
Hab. Tennessee, United States.

A smooth, shining, trochoid shell, encircled with a conspicuous band below the angle of the last whorl.

Species 302. (Mus. Cuming.)

Melania fastigiata. *Mel. testâ fusiformi-pyramidali, flavido-virente, fasciis duabus rufo-fuscis distantibus cingulatâ, anfractibus novem ad decem, declivi-planis, primis paucis validè carinatis, cæteris lævibus; aperturâ subangustè ovatâ, columellâ reflexâ, ad basin incurvâ et canaliculato-effusâ.*

The pointed Melania. Shell fusiformly pyramidal, yellowish-green, encircled with two distant red-brown bands, whorls nine to ten, slopingly flattened, the first few strongly carinated, the rest smooth; aperture rather narrowly ovate, columella reflected, incurved, and canaliculately effused at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 113.
Hab. Tennessee, United States.

A shell of rather delicate substance, encircled throughout with two distant red-brown bands.

Species 303. (Mus. Cuming.)

Melania pyrenella. *Mel. testâ gracili-pyramidali, castaneo-olivaceâ, ad suturas pallidâ, anfractibus decem ad undecim, declivi-planatis aut concavis, lævibus, infernè angulatis et carinatis; aperturâ ovatâ, fauce purpureâ, columellâ contorto-incurvâ, ad basin appressè effusâ.*

The olive-stone Melania. Shell slenderly pyramidal, chestnut-olive, pale at the sutures, whorls ten to eleven, slopingly flattened or concave, smooth, angled and keeled round the lower parts; aperture ovate, purplish within, columella twistedly incurved, appressly effused at the base.

Conrad, New Freshwater Shells, p. 52. pl. 8. f. 5.
Hab. Alabama.

A very sharply pyramidal shell, smooth and shining, corded throughout above the sutures with a fine keel.

Species 304. (Fig. *a*, *b*, Mus. Cuming.)

Melania canaliculata. *Mel. testâ obeso-pyramidali, subtrochoideâ, crassâ, ponderosâ, olivaceâ, anfractibus novem ad undecim, declivi-convexis, costâ unâ, interdum duabus, medio cingulatis; aperturâ subangustè ovatâ, columellâ contorto-incurvâ, callosâ, ad basin effuso-canaliculatâ.*

The channelled Melania. Shell stoutly pyramidal, somewhat trochoid, thick, heavy, olive, whorls nine to eleven, slopingly convex, encircled round the middle sometimes with one rib, sometimes with two; aperture rather narrowly ovate, columella twistedly incurved, callous, effusely channelled at the base.

Say, Journ. Acad. Nat. Sci. Philadelphia, vol. ii. p. 175.
Hab. Alabama, United States.

A stout, pyramidally trochoid shell, encircled sometimes with one revolving rib, sometimes with two, in which latter case the whorls appear to be broadly channelled throughout at the sutures.

Species 305. (Mus. Cuming.)

Melania elongata. *Mel. testâ pyramidali-trochoideâ, crassâ, sordidè olivaceâ, fasciis distantibus nigris interdum cinctâ, anfractibus novem ad decem, concavo-planis, interdum validè tri-quadricarinatis, ultimo ad basin semper carinato; aperturâ abbreviato-ovatâ, columellâ callosâ, contorto-incurvâ, ad basin effuso-canaliculatâ.*

The elongated Melania. Shell pyramidally trochoid, thick, dark-olive, sometimes encircled with two distant black bands, whorls nine to ten, concavely flattened, sometimes strongly three- to four-keeled, last whorl always keeled at the base; aperture shortly ovate, columella callous, twistedly incurved, effusely channelled at the base.

LEA, Trans. Amer. Phil. Soc. vol. iv. pl. 15. f. 29.

Hab. Alabama, United States.

An obtusely angled, pyramidally trochoid shell, rather obscurely banded upon a dark-olive ground.

Species 306. (Mus. Cuming.)

MELANIA RORATA. *Mel. testâ pyramidali-conicâ, fusco-olivaceâ, spirâ elevatâ, anfractibus decem ad undecim, declivi-convexis, liris confertiusculis, quarum nonnullis gemmatis, undique cingulatis; aperturâ ovatâ, columellâ callosâ, contortâ, effuso-canaliculatâ.*

THE BEDEWED MELANIA. Shell pyramidally conical, brownish-olive, spire raised, whorls ten to eleven, slopingly convex, corded throughout with rather close-set ridges, some of which are beaded; aperture ovate, columella callous, twisted, effusely channelled.

Hab. Alabama, United States.

Although closely allied to the preceding species, I have no specimens with which to connect it. The form, as well as the sculpture, in Mr. Cuming's specimens, differs materially.

Species 307. (Fig. *a*, *b*, Mus. Cuming.)

MELANIA UNDULATA. *Mel. testâ obeso-pyramidali, trochoideâ, crassâ, ponderosâ, olivaceâ, anfractibus octo ad novem, declivi-convexis, costis duabus rudè tuberculatis distantibus cingulatis; aperturâ subabbreviato-ovatâ, columellâ callosâ, incurvâ, ad basin effuso-canaliculatâ.*

THE WAVED MELANIA. Shell stoutly pyramidal, trochoid, thick, ponderous, olive, whorls eight to nine, slopingly convex, encircled with two distant, rudely tubercled ribs; aperture rather shortly ovate, columella callous, incurved, effusely channelled at the base.

SAY, New Harm. Diss. vol. ii. p. 261.

Hab. Ohio, United States.

This species differs from *M. canaliculata* only in having the distant revolving ribs strongly tubercled, and in the columella ending in a deeper, effused channel.

Species 308. (Mus. Cuming.)

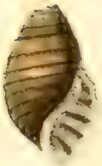
MELANIA ANNULIFERA. *Mel. testâ subulato-pyramidali, crassâ, fulvo-olivaceâ, anfractibus declivi-convexis, costis validibus undique regulariter annulatâ; aperturâ ovatâ, parvâ, columellâ reflexâ, ad basin appressè effusâ.*

THE RINGED MELANIA. Shell subulately pyramidal, thick, fulvous-olive, whorls slopingly convex, regularly ringed throughout with strong ribs; aperture ovate, small, columella reflected, appressly effused at the base.

CONRAD, New Freshwater Shells, p. 51. pl. 4. f. 5.

Hab. Alabama, United States.

This is of a more subulate form than the three preceding species, ribbed and grooved with the regularity of a screw.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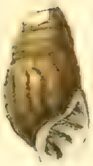
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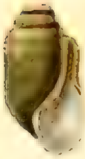
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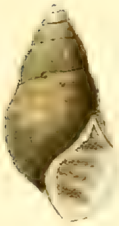
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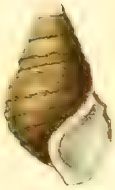
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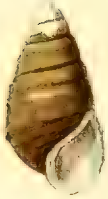
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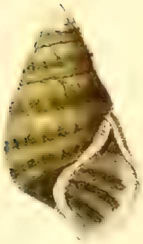
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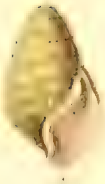
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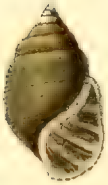
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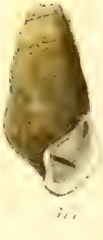
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MELANIA.

Plate XLIII.

Species 309. (Mus. Cuming.)

Melania olivula. *Mel. testâ cylindraceo-ovatâ, fulvo-olivaceâ, fasciis quatuor fusco-nigricantibus cingulatâ, spirâ obtusâ, anfractibus quinque ad sex, convexis, undique transversim liratis; aperturâ oblongo-ovatâ, angustâ, columellâ reflexâ, ad basin paululum effusâ.*

The little olive Melania. Shell cylindrically ovate, fulvous-olive, encircled with four brown-black bands, spire obtuse, whorls five to six, convex, transversely ridged throughout; aperture oblong-ovate, narrow, columella reflected, a little effused at the base.

Conrad, Amer. Journ. Sci. p. 25. pl. 1. f. 13.

Hab. United States.

Of a cylindrically oval *Tornatella*-like form, neatly ridged and banded across throughout.

Species 310. (Mus. Cuming.)

Melania Haysiana. *Mel. testâ cylindraceo-ovatâ, spirâ obtusè elevatâ, fulvo-olivaceâ aut brunneâ, nigricante-fusco interdum fasciatâ, anfractibus quinque ad sex, obscurè transversim liratis, liris irregularibus subnodosis; aperturâ angustâ, ovatâ, columellâ reflexâ, ad basin effusâ.*

Hay's Melania. Shell cylindrically ovate, spire obtusely raised, fulvous-olive or brown, sometimes transversely banded with blackish-brown, whorls five to six, obscurely transversely ridged, ridges irregular, slightly noduled; aperture narrowly ovate, columella reflected, effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. ix. p. 25.

Hab. United States.

If the shell here figured is really an authentic specimen, I doubt if the species is anything more than a variety of the preceding.

Species 311. (Mus. Cuming.)

Melania cylindracea. *Mel. testâ cylindraceo-oblongâ, medio subcontractâ, fulvo-virente, fasciis nigro-fuscis plus minus distinctè pictâ, spirâ brevi, subimmersâ, anfractibus quinque ad sex, lævigatis; aperturâ elongato-oblongâ, supernè perangustâ, columellâ incurvâ, tenuè reflexâ, parum effusâ.*

The cylindrical Melania. Shell cylindrically-oblong, slightly contracted in the middle, fulvous-green, more or less distinctly painted with brown-black bands, spire short, rather immersed, whorls five to six, smooth; aperture elongately oblong, very narrow at the upper part, columella incurved, thinly reflected, but little effused.

Conrad, New Freshwater Shells, p. 55. pl. 8. f. 10.

Hab. Alabama, United States.

A smooth, greenish-olive species, somewhat irregularly banded, well characterized by its contracted oblong form, short immersed spire and elongated aperture owing to the slight descent of the whorls.

Species 312. (Fig. *a*, *b*, Mus. Cuming.)

Melania ampla. *Mel. testâ conico-ovoideâ, obesâ, ventricosâ, fulvo-olivaceâ, fusco-nigro variè fasciatâ, anfractibus quinque ad sex, convexis, obsoletè obtusè tuberculatis; aperturâ ovatâ, columellâ ad basin appressè effusâ.*

The ample Melania. Shell conically ovoid, stout, ventricose, fulvous-olive, variously banded with black-brown, whorls five to six, convex, obsoletely obtusely tubercled; aperture ovate, columella appressly effused at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 93.

Hab. Alabama, United States.

A bulky conically ovoid shell, more or less obscurely banded, and showing faint indications of tubercles.

Species 313. (Mus. Cuming.)

Melania harpa. *Mel. testâ conico-ovatâ, crassâ, fulvo-brunneâ, anfractibus quinque ad sex, costis distantibus undique cingulatis, costis interdum obscurè gemmatis; aperturâ ovatâ, columellâ sublatè reflexâ, ad basin effusâ.*

The harp Melania. Shell conically ovate, thick, fulvous-brown, whorls five to six, encircled throughout with distant ribs, ribs sometimes obscurely keeled; aperture ovate, columella rather broadly reflected, effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 45.

Hab. Alabama, United States.

A solid conical shell, boldly ribbed throughout, the ribs

September, 1860.

being rather distant, and inclined towards the upper part of the whorls to break up into beads.

Fig. 314. (Mus. Cuming.)

Mr. Cuming has the name *M. lateralis* with this shell, but it appears to be only a variety of the preceding species.

Species 315. (Mus. Cuming.)

Melania venusta. *Mel. testâ conico-ovatâ, subobesâ, fulvo-olivaceâ, anfractibus quinque ad sex, supernè declivibus, interdum seriatim gemmatis, deinde gibbosis; aperturâ ovatâ, fauce purpureo-fuscâ, columellâ supernè callositate munitâ, infernè contorto-reflexâ, ad basin subcanaliculatâ.*

The pretty Melania. Shell conically ovate, rather stout, fulvous-olive, whorls five to six, sloping at the upper part, sometimes encircled with rows of beads, then gibbous; aperture ovate, purple-brown within, columella furnished at the upper part with a callosity, twistedly reflected at the lower, slightly channelled at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 52.
Hab. Alabama.

The specimen figured in our Plate is a smooth variety of the species; sometimes it is encircled round the upper part with one or two rows of beads.

Species 316. (Mus. Cuming.)

Melania impressa. *Mel. testâ ovatâ, subquadratâ, fulvo-olivaceâ, nigricante-fusco obscurè fasciatâ, anfractibus quinque ad sex, ad marginem tumidiusculis, undique creberrimè lineari-liratis et sulcatis; aperturâ oblongo-ovatâ, columellâ subcallosâ, arcuatâ, ad basin sinuato-effusâ.*

The impressed Melania. Shell ovate, rather stout, fulvous-olive, obscurely banded with black-brown, whorls five to six, rather swollen at the margin, very closely linearly ridged and grooved throughout; aperture oblong-ovate, columella rather callous, arched, sinuately effused at the base.

Lea, MS. in Mus. Cuming.
Hab. Alabama, United States.

An extremely characteristic species, the surface being engraved throughout with close-set linear grooves and ridges.

Species 317. (Mus. Cuming.)

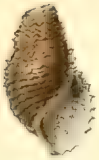
Melania valida. *Mel. testâ elongato-conicâ, olivaceâ, anfractibus septem ad novem, declivi-planis, infernè angulatis; aperturâ parvâ, ovatâ, utrinque attenuatâ, columellâ contorto-incurvâ, ad basin canaliculatâ.*

The strong Melania. Shell elongately conical, olive, whorls seven to nine, slopingly flat, angled round the lower part; aperture small, ovate, attenuated at each end, columella twistedly incurved, channelled at at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, p. 59.
Hab. Tennessee, United States.

Of rather elongated growth, each whorl being slightly angled and impressed at the lower part next the suture.

Melania Pl. XLIV.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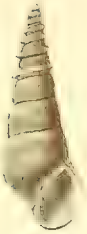
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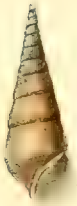
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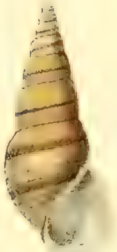
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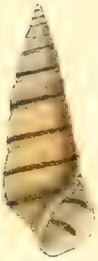
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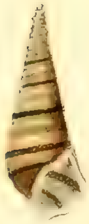
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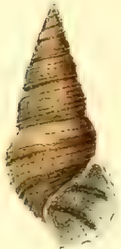
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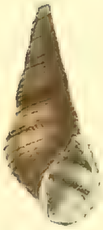
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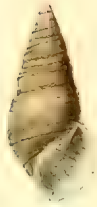
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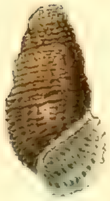
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Vincent Brooks, Imp

MELANIA.

Plate XLIV.

Fig. 318. (Mus. Cuming.)

The shell here figured, an authentic specimen of Mr. Lea's *M. Shastaensis*, appears to be identical with Mr. Hinds' *M. occata* from the same locality, described at Plate XXXVIII. Fig. 267.

Species 319. (Mus. Cuming.)

Melania sugillata. *Mel. testâ acuminato-turritâ, livido-griseâ, anfractibus decem ad undecim, primis paucis acutissimè unicarinatis, cæteris lævibus; aperturâ rotundato-ovatâ, columellâ contortâ, ad basin sinuato-reflexâ.*

The bruised Melania. Shell acuminately turreted, livid-grey, whorls ten to eleven, the first few encircled with a very sharp keel, the rest smooth; aperture rotundately ovate, columella twisted, sinuately reflected at the base.

Hab. Alabama.

Of a smooth livid bruised aspect, encircled towards the apex with a particularly prominent fine keel, which soon disappears.

Species 320. (Mus. Cuming.)

Melania strigosa. *Mel. testâ acuminato-subulatâ, fulvo-olivaceâ, anfractibus undecim ad duodecim, declivibus, ad suturas subangulato-impressis, longitudinaliter confertim striato-strigosis; aperturâ ovatâ, columellâ ad basin tenuè effusâ.*

The streaked Melania. Shell acuminately subulate, fulvous-olive, whorls eleven to twelve, sloping, rather angularly impressed at the sutures, longitudinally closely streaked with striæ; aperture ovate, columella thinly effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 24.

Hab. Virginia, United States.

The specific appellation of 'streaked' given to this species appears to refer to a dense sculpture of concentrically curved longitudinal striæ.

Species 321. (Fig. *a*, *b*, Mus. Cuming.)

Melania Virginica. *Mel. testâ subelongato-turritâ, fulvo-olivaceâ, fasciis duabus angustis nigricante-fuscis distantibus cingulatâ, anfractibus octo ad novem, subrotundatis, nunc lævibus, nunc spiraliter liratis: aperturâ ovatâ, columellâ arcuatâ, ad basin appressè effusâ.*

The Virginian Melania. Shell somewhat elongately turreted, fulvous-olive, encircled with two distant narrow black-brown bands, whorls eight to nine, somewhat rounded, now smooth, now spirally ridged; aperture ovate, columella arched, appressly effused at the base.

Buccinum Virginicum, Gmelin, Syst. Nat. p. 3505.
Paludina Virginica, Say.
Melania Virginica, Say.
Melania multilineata, Say.
Melania fasciata, Menke.

Hab. Virginia, United States.

The bands appear to be a more characteristic feature in this species than the sculpture, which is most inconstant.

Species 322. (Fig. *a*, *b*, Mus. Cuming.)

Melania vestita. *Mel. testâ subulato-turritâ, solidiusculâ, fulvâ, nigricante-castaneo variè fasciatâ, anfractibus undecim ad duodecim, plano-declivibus, lævibus, primis perpaucis carinatis; aperturâ obliquè ovatâ, columellâ contortâ, ad basin canaliculato-recurvâ.*

The clothed Melania. Shell subulately turreted, rather solid, fulvous, variously banded with blackish-chestnut, whorls eleven to twelve, flatly sloping, smooth, the first few keeled; aperture obliquely ovate, columella twisted, canaliculately recurved at the base.

Conrad, New Freshwater Shells, p. 57. pl. 8. f. 12.

Hab. Alabama.

A more solid shell than the preceding, more irregularly banded, with a faint keel encircling the earlier whorls.

Fig. 323. (Mus. Cuming.)

This shell is, I fear, a specimen of *Hemisinus bicinctus* convoluted by accidental stricture in a more acuminate manner than naturally belongs to that species.

Species 324. (Mus. Cuming.)

Melania Buddii. *Mel. testâ turritâ, fulvescente, anfracfractibus octo ad novem, supernè rotundatis, liris tenui-*

bus cingulatis, deinde planis, ad suturas carinatis et impressis; aperturâ ovatâ, columellâ ad basin appressè sinuatâ.

BUDD'S MELANIA. Shell turreted, yellowish, whorls eight to nine, somewhat rounded at the upper part, encircled with fine ridges, then flat, keeled and impressed at the sutures; aperture ovate, columella appressly sinuated at the base.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 44.

Hab. Tennessee, United States.

Rather impressed at the sutures, above which the whorls are variously encircled with fine ridges and keels.

Species 325. (Mus. Cuming.)

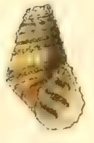
MELANIA ASPERSA. *Mel. testâ ovato-turritâ, subcylindraceâ, olivaceâ, nigro promiscuè aspersâ, anfractibus paucis, convexis, spiraliter costatis, costis superioribus nodulatis, suturis plano-impressis; aperturâ ovatâ, parviusculâ, columellâ tenui, parum reflexâ.*

THE SPRINKLED MELANIA. Shell ovately turreted, somewhat cylindrical, olive, promiscuously sprinkled with black, whorls few, convex, upper ribs noduled, sutures flatly impressed; aperture ovate, rather small, columella thin, but little reflected.

Hab. Pernambuco.

A very characteristic species partaking of the local typical characters of *M. transversa* from the same habitat.

Melania Pl. XLV.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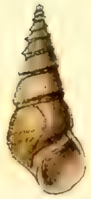
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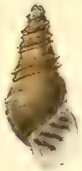
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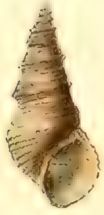
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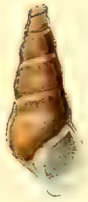
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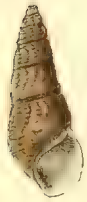
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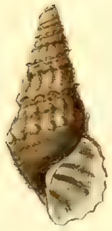
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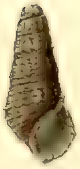
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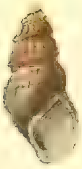
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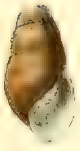
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MELANIA.

PLATE XLV.

Species 236. (Mus. Cuming.)

MELANIA CATENARIA. *Mel. testâ obliquè ovatâ, fulvo-olivaceâ, nigro-viridi obscurè fasciatâ, anfractibus paucis, supernè declivibus, longitudinaliter plicatis, liris linearibus distantibus funiculatis; aperturâ ovatâ, columellâ arcuato-reflexâ.*

THE LINKED MELANIA. Shell obliquely ovate, fulvous-olive, obscurely banded with dark-green, whorls few, sloping at the upper part, longitudinally plicated, corded with distant linear ridges; aperture ovate, columella arcuately reflected.

SAY, Journ. Acad. Nat. Sci. Philadelphia, vol. ii. p. 379.

Hab. South Carolina.

Allied to *M. Boykiniana*, and still more closely allied to *M. Hallenbeckii.*

Species 327. (Mus. Cuming.)

MELANIA BICINCTA. *Mel. testâ conico-turritâ, olivaceâ, nitente, anfractibus septem, supernè declivi-concavis, deinde conspicuè bicarinatis, carinis in anfractu ultimo evanidis; aperturâ ovatâ, subeffusâ.*

THE TWO-GIRT MELANIA. Shell conically turreted, olive, shining, whorls seven, slopingly concave round the upper part, then conspicuously two-keeled, the keels disappearing on the last whorl; aperture ovate, a little effused.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 56.

Distinguished by a rather more than usually sloping concavity round the upper part of the whorls.

Species 328. (Mus. Cuming.)

MELANIA SYMMETRICA. *Mel. testâ conico-turritâ, fulvo-olivaceâ, anfractibus decem, supernè declivibus, primis paucis unicarinatis, cæteris obscurè triliratis; aperturâ ovatâ, columellâ rubicundâ, ad basin reflexo-effusâ.*

THE SYMMETRICAL MELANIA. Shell conically turreted, fulvous-olive, whorls ten, sloping round the upper part, the first few keeled, the rest faintly three-ridged; aperture ovate, columella ruddy, reflectedly effused at the base.

HALDEMAN, MS. in Mus. Cuming.

Hab. United States.

The lower whorls of this species present indications of three faint ridges in place of the keel, and the columella has a purplish-ruddy hue.

Species 329. (Mus. Cuming.)

MELANIA TROOSTIANA. *Mel. testâ conico-turritâ, tenuiculâ, sordidè olivaceâ, anfractibus octo ad novem, rotundatis, primis paucis unicarinatis, cæteris liris tenuibus undique spiraliter funiculatis; aperturâ ovatâ, ad basin appressè effusâ, labro crenulato.*

TROOST'S MELANIA. Shell conically turreted, rather thin, dull-olive, whorls eight to nine, rounded, the first few keeled, the rest spirally corded throughout with fine ridges; aperture ovate, appressly effused at the base, lip crenulated.

LEA, Trans. Amer. Phil. Soc. vol. vi. pl. 23. f. 86.

Hab. United States.

Chiefly distinguished by its encircling sculpture of fine thread-like ridges.

Species 330. (Mus. Cuming.)

MELANIA DESHAYESII. *Mel. testâ ovato-turritâ, olivaceâ, anfractibus octo ad novem, convexis, supernè transversim liratis, longitudinaliter concentricè plicatis, liris plicisque gradatim evanidis; aperturâ ovatâ, parum effusâ.*

DESHAYES'S MELANIA. Shell ovately turreted, olive, whorls eight to nine, convex, transversely ridged round the upper part, longitudinally concentrically plicated, ridges and plaits gradually fading; aperture ovate, but little effused.

LEA, MS. in Mus. Cuming. 18·12

Hab. —— ?

Of this specimen, received with the above name from Mr. Lea, Mr. Cuming has no habitat; it is probably a United States shell, but it partakes a little of the Guiana type of the genus.

Species 331. (Mus. Cuming.)

MELANIA ELATA. *Mel. testâ conico-subulatâ, olivaceâ, anfractibus septem ad novem, lævibus, ad suturas subcontractis; aperturâ ovatâ, utrinque subattenuatâ.*

September, 1860.

THE RAISED MELANIA. Shell conically subulate, olive, whorls seven to nine, smooth, rather contracted at the sutures; aperture ovate, a little attenuated at each end.

ANTHONY, MS. in Mus. Cuming.
Hab. United States.

Another species of very simple character, received by Mr. Cuming from Mr. Anthony with the above name in manuscript.

Species 332. (Mus. Cuming.)

MELANIA HALLENBECKII. *Mel. testâ ovato-turritâ, fulvo-olivaceâ, viridi-nigricante trifasciatâ, anfractibus sex ad septem, supernè subacutè declivibus, concentricè tenuiplicatis, plicis ad angulum nodosis; aperturâ ovatâ, ad basin effuso-productâ.*

HALLENBECK'S MELANIA. Shell ovately turreted, fulvous-olive, encircled with three greenish-black bands, whorls six to seven, rather sharply sloping round the upper part, concentrically finely plicated, plaits noduled on the angle; aperture ovate, effusely produced at the base.

LEA, MS. in Mus. Cuming.
Hab. United States.

A rather striking species, with the whorls sloping round the upper part, and plaited on the slope, the plaits being noduled upon the angle at the end.

Species 333. (Mus. Cuming.)

MELANIA CARINO-COSTATA. *Mel. testâ ovatâ, abbreviato-turritâ, olivaceâ, anfractibus paucis, declivi-convexis, infernè carinatis, supra carinam longitudinaliter concentricè carino-costatis; aperturâ ovatâ, ad basin appressè effusâ.*

THE KEEL-RIBBED MELANIA. Shell ovate, shortly turreted, olive, whorls few, slopingly convex, keeled round the lower part, longitudinally concentrically keel-ribbed above the keel; aperture ovate, appressly effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. x. p. 62. pl. 9. f. 40.
Hab. Alabama, United States.

The peculiarity of this species consists in the whorls being longitudinally finely ribbed in concentric order, the ribs not extending to the suture, but terminating suddenly upon a transverse keel.

Species 334. (Mus. Cuming.)

MELANIA FLORIDENSIS. *Mel. testâ subpyramidali-turritâ, nigricante-olivaceâ, anfractibus septem ad novem, latè declivibus, deinde subangulatis, longitudinaliter indistinctè plicatis, liris tenuibus nodulatis undique funiculatis; aperturâ ovatâ, parviusculâ, ad basin subeffusâ.*

THE FLORIDA MELANIA. Shell somewhat pyramidally turreted, blackish-olive, whorls seven to nine, broadly sloping, then slightly angled, longitudinally indistinctly plaited, corded throughout with fine noduled ridges; aperture ovate, a little effused at the base.

Hab. Florida.

Sculptured throughout with fine corded ridges, which are noduled on crossing the rather obscure longitudinal plaits.

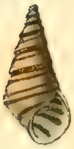
Species 335. (Mus. Cuming.)

MELANIA OCOEENSIS. *Mel. testâ cylindraceo-subulatâ, plerumque decollatâ, solidiusculâ, olivaceâ, anfractibus convexis, lævibus, supernè rudè marginatis; aperturâ ovatâ, parviusculâ.*

THE OCOEE MELANIA. Shell cylindrically subulate, generally decollated, rather solid, olive, whorls convex, smooth, rudely margined round the upper part; aperture ovate, rather small.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 13.
Hab. Ocoee, Tennessee, United States.

A smooth, solid shell, somewhat rudely margined next the suture.



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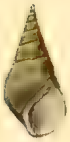

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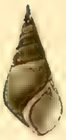

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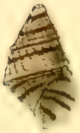

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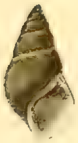

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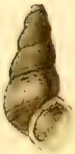

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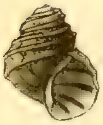

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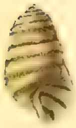

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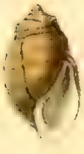

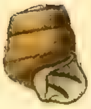

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MELANIA.

Plate XLVI.

Species 336. (Mus. Cuming.)

Melania pulcherrima. *Mel. testâ acuminato-turritâ, flavescente-olivaceâ, fusco angustè trifasciatâ, anfractibus septem ad octo, supernè declivi-convexis, deinde acutè carinatis, carinâ gradatim evanidâ; aperturâ ovatâ, labro columellari subeffuso.*

The beautiful Melania. Shell acuminately turreted, yellowish-olive, narrowly three-banded with brown, whorls seven to right, slopingly convex round the upper part, then sharply keeled, keel gradually disappearing; aperture ovate, columellar lip slightly effused.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 58.

Hab. North Carolina, United States.

The centre band appears on the keel; the lower band is almost lost in the suture. In the last whorl a fourth band is seen.

Species 337. (Mus. Cuming.)

Melania castanea. *Mel. testâ acutè subulatâ, versus basin tumidiusculâ, olivaceo-castaneâ, ad suturas pallidâ, anfractibus septem ad octo, declivi-planatis, lævibus; aperturâ oblongo-ovatâ, ad basin effusâ.*

The chestnut Melania. Shell sharply subulate, rather swollen towards the base, olive-chestnut, pale at the sutures, whorls seven to eight, slopingly flattened, smooth; aperture oblong-ovate, effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 2.

Hab. Tennessee, United States.

A smooth olive-chestnut shell, pale at the sutures, with the spire more than usually acuminately subulate.

Species 338. (Mus. Cuming.)

Melania adusta. *Mel. testâ acutè conicâ, lævigatâ, nitente, adusto-olivaceâ, ad suturas pallidâ, anfractibus septem ad octo, declivi-planatis, ultimo subgibboso, suturis distinctis; aperturâ ovatâ, parum effusâ, intus purpurascente, columellâ subincurvâ.*

The burned Melania. Shell sharply conical, smooth, shining, dusky-olive, pale at the sutures, whorls seven to eight, slopingly flattened, last whorl somewhat gibbous, sutures distinct; aperture ovate, but little effused, purplish within, columella rather incurved.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 55.

Hab. Tennessee, United States.

A more solid, less subulate shell than the preceding species, with the aperture shorter and columella more incurved.

Species 339. (Mus. Cuming.)

Melania sublirata. *Mel. testâ obeso-conicâ, flavescente-olivaceâ, fusco remotè bifasciatâ, anfractibus quinque ad sex, longitudinaliter plicatis, supernè gemmatis, infernè carinatis, ultimo quadrifasciato; aperturâ ovatâ, ad basin attenuato-effusâ.*

The slightly-ridged Melania. Shell stoutly conical, yellowish-olive, distantly two-banded with brown, whorls five to six, longitudinally plicated, beaded round the upper part, keeled round the lower, last whorl four-banded; aperture ovate, alternately effused at the base.

Conrad, MS. in Mus. Cuming.

Hab. United States.

A very characteristic globosely conical shell, longitudinally radiately plicated, and encircled with four distant brown bands, only two of which appear above the suture.

Species 340. (Mus. Cuming.)

Melania spurca. *Mel. testâ ovato-conicâ, sordidè olivaceâ, ad suturas pallidâ, anfractibus sex, lævibus, tumidiusculis; aperturâ ovatâ, vix effusâ.*

The dirty Melania. Shell ovately conical, dull-olive, pale at the sutures, whorls six, smooth, rather swollen; aperture ovate, scarcely effused.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 31.

Hab. Alabama.

A well-defined species, but of rather simple character.

Species 341. (Mus. Cuming.)

Melania abjecta. *Mel. testâ turriculatâ, olivaceâ, tenuiculâ, anfractibus numerosis, subangustis, spiraliter subsulcatis, ad suturas impressis; aperturâ parvisculâ, subrotundatâ, ad marginem effusâ.*

The cast-off Melania. Shell turriculated, olive,

November, 1860.

rather thin, whorls numerous, rather narrow, spirally faintly grooved, impressed at the sutures; aperture rather small, somewhat rounded, effused at the margin.

HALDEMAN, MS. in Mus. Cuming.

Hab. —— ?

A somewhat slender turriculated shell, rather constricted at the sutures.

Species 342. (Mus. Cuming.)

MELANIA PROSCISSA. *Mel. testâ globoso-ovatâ, intensè olivaceâ, spirâ brevi, anfractibus paucis, rotundatis, tricarinatis, carinis distantibus, interstitiis concavo-excavatis; aperturâ ovatâ, subamplâ.*

THE PLOUGHED MELANIA. Shell globosely ovate, dark-olive, spire short, whorls few, rounded, three-keeled, keels distant, interstices concavely excavated; aperture ovate, rather large.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 109. pl. 3. f. 9.

Hab. Alabama, United States.

Well distinguished by its broadly ovate form and widely spread bold keeling.

Species 343. (Mus. Cuming.)

MELANIA COMPACTA. *Mel. testâ obtusè conicâ, subcylindraceâ, flavescente, fusco conspicuè bifasciatâ, anfractibus quinque, plano-convexis, lævibus; aperturâ parvâ, ad basin subattenuato-effusâ.*

THE COMPACT MELANIA. Shell obtusely conical, somewhat cylindrical, yellowish, encircled with two conspicuous brown bands, whorls five, flatly convex, smooth; aperture small, somewhat attenuately effused at the base.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 122. pl. 3. f. 22.

Hab. Alabama.

A compactly convoluted shell, approaching the *Anculotus* form of the group.

Species 344. (Mus. Cuming.)

MELANIA BREVIS. *Mel. testâ cylindraceo-oblongâ, crassiusculâ, pallidè castaneâ, spirâ obtusâ, anfractibus paucis, plano-convexis, transversim rudè liratis; aperturâ subangustè ovatâ, supernè subsinuatâ, infernè effusâ.*

THE SHORT MELANIA. Shell cylindrically oblong, rather thick, pale-chestnut, spire obtuse, whorls few, flatly convex, transversely rudely ridged; aperture rather narrowly ovate, a little sinuated at the upper part, effused at the lower.

LEA, MS. in Mus. Cuming.

Hab. —— ?

Of somewhat the form of the preceding species, but distinguished by a roughly ridged surface and more oblong aperture.

Species 345. (Mus. Cuming.)

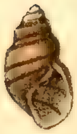
MELANIA CURTA. *Mel. testâ abbreviato-pyramidali, plus minus conspicuè decollatâ, flavescente-castaneâ, ad suturas fasciâ fuscâ unicâ cingulatâ, anfractibus angustis, convexo-planatis; aperturâ minutâ, contractâ, columellâ reflexâ, angulato-effusâ.*

THE BROKEN MELANIA. Shell shortly pyramidal, more or less conspicuously decollated, yellowish-chestnut, encircled at the sutures with a single brown band, whorls narrow, convexly flattened; aperture very small, contracted, columella reflected, angularly effused.

HALDEMAN, MS. in Mus. Cuming.

Hab. —— ?

A very characteristic form of *Melania*, in which the whorls are unusually narrow, and the aperture correspondingly small and angularly contracted.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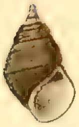
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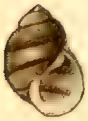
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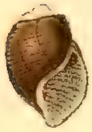
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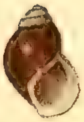
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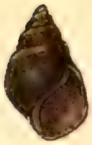
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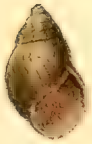
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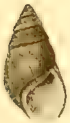
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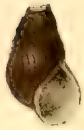
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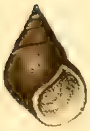
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MELANIA.

Plate XLVII.

Species 346. (Mus. Cuming.)

Melania elegantula. *Mel. testâ subfusiformi-ovatâ, virescente-olivaceâ, lævigatâ, anfractibus quinque ad sex, supernè tumidis, obtusè angulatis, deinde convexo-planatis; aperturâ oblongo-ovatâ, ad basin effuso-productâ.*

The elegant Melania. Shell somewhat fusiformly ovate, greenish-olive, smooth, whorls five to six, swollen round the upper part, obtusely angled, then convexly flattened; aperture oblong-ovate, effusely produced at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 103. pl. 3. f. 2.

Hab. Kentucky, United States.

Chiefly distinguished by an obtusely angled shoulder round the upper part of the whorls.

Species 347. (Mus. Cuming.)

Melania rhombica. *Mel. testâ acutè conicâ, medio gibboso-carinatâ, livido-olivaceâ, ad suturas pallidâ, anfractibus quinque ad sex, versus apicem quadricarinatis, carinis cito evanidis; aperturâ ovatâ, ad basin effusâ.*

The rhombic Melania. Shell sharply conical, gibbously keeled round the middle, livid-olive, pale at the sutures, whorls five to six, encircled towards the apex with four keels, which soon disappear; aperture ovate, effused at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 116. pl. 3. f. 16.

Hab. Alabama, United States.

In this very characteristic species the keel which encompasses the swollen periphery of the whorls remains, while the rest quickly disappear.

Species 348. (Mus. Cuming.)

Melania nucleola. *Mel. testâ obeso-ovatâ, flavescente-olivaceâ, fusco bifasciatâ, anfractibus perpaucis, lævibus, supernè obtusè tumidis; aperturâ rotundato-ovatâ, parum obtusâ.*

The little kernel Melania. Shell stoutly ovate, yellowish-olive, encircled with two brown bands, whorls very few, smooth, obtusely swollen round the upper part; aperture rotundately ovate, but little effused.

Anthony, MS. in Mus. Cuming.

Hab. United States.

A compactly convoluted round-shouldered shell, composed of only three to four whorls.

Fig. 349. (Mus. Cuming.)

The shell here figured proves to be an eroded immature specimen of *M. impressa*, given at Pl. XLIII. Sp. 316.

Species 350. (Mus. Cuming.)

Melania ebenum. *Mel. testâ ovatâ, nigricante-castaneâ, anfractibus quatuor, lævibus vel obscurè striatis, supernè declivibus, deinde rotundatis; aperturâ ovatâ, parviusculâ, ad basin subeffusâ, fauce fuscescente.*

The ebony Melania. Shell ovate, dark-chestnut, whorls four, smooth or obscurely striated, sloping round the upper part, then rounded; aperture ovate, rather small, a little effused at the base, brownish within.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 7.

Hab. Tennessee, United States.

A dark chestnut-stained shell, of very simple character, composed of only four whorls.

Species 351. (Mus. Cuming.)

Melania iostoma. *Mel. testâ obeso-conicâ, violaceo-nigricante, ad suturas adustis, anfractibus sex, lævibus, longitudinaliter densè undato-striatis, ultimo obtusè angulato; aperturâ oblongo-ovatâ, ad labrum sinuatâ, ad basin effusâ, fauce intensè violaceo-fuscâ.*

The violet-mouth Melania. Shell stoutly conical, violet-black, adust at the sutures, whorls six, smooth, longitudinally densely wave-striated, last whorl obtusely angled; aperture oblong-ovate, sinuated at the lip, effused at the base, interior dark violet-brown.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 62.

Hab. Tennessee, United States.

An excellent species, distinguished by its conspicuously developed striæ of growth and uniform violet black-brown colouring.

November, 1860.

Species 352. (Mus. Cuming.)

MELANIA AMBUSTA. *Mel. testâ ovatâ, subinflatâ, livido-olivaceâ, interdum obscurè fasciatâ, anfractibus quinque ad sex, convexis, longitudinaliter densè tenuistriatis; aperturâ ovatâ, fauce purpureo-fuscâ.*

THE SCORCHED MELANIA. Shell ovate, slightly inflated, livid-olive, sometimes obscurely banded, whorls five to six, convex, longitudinally densely finely striated; aperture ovate, purple-brown within.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 94. pl. 2. f. 13.

Hab. Alabama, United States.

A smooth ovate shell, of regular growth, stained with purple-brown in the interior.

Species 353. (Mus. Cuming.)

MELANIA WARDERIANA. *Mel. testâ subulato-conicâ, sordidè olivaceâ, spirâ elevatiusculâ, anfractibus septem aut pluribus, primis paucis infernè carinatis, carinâ citò evanidâ; aperturâ ovatâ, parviusculâ, ad basin paululum effusâ.*

WARDER'S MELANIA. Shell subulately conical, dull-olive, spire rather raised, whorls seven or more, the first few keeled at the lower part, keels soon disappearing; aperture ovate, rather small, a little effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 47.

Hab. Virginia, United States.

A shell of uniform dark-olive colouring, without sculpture, distinguished by a rather elevately subulate spire.

Species 354. (Mus. Cuming.)

MELANIA PERFUSCA. *Mel. testâ ovato-turritâ, olivaceo-fuscâ, anfractibus declivi-convexis, densè obliquè longitudinaliter striatis; aperturâ parviusculâ, rotundato-ovatâ, vix effusâ.*

THE DARK-BROWN MELANIA. Shell ovately turreted, olive-brown, whorls slopingly convex, densely obliquely longitudinally striated; aperture rather small, rotundately ovate, scarcely effused.

LEA, MS. in Mus. Cuming. 184

Hab. ——?

The chief characteristic of this species is, perhaps, its close-set longitudinal striæ, which pass somewhat obliquely over the whorls.

Species 355. (Mus. Cuming.)

MELANIA PINGUIS. *Mel. testâ ovato-conicâ, subobeso-inflatâ, virescente-olivaceâ, anfractibus quinque, supernè declivibus, densè obliquè longitudinaliter striatis; aperturâ rotundato-ovatâ, columellâ calloso-incurvâ.*

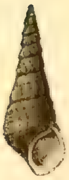
THE PLUMP MELANIA. Shell ovately conical, rather stoutly inflated, greenish-olive, whorls five, sloping round the upper part, densely obliquely longitudinally striated; aperture rotundately ovate, columella callously incurved.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 30. f. 11.

Hab. Tennessee, United States.

A greenish-olive tumidly conical shell, finely longitudinally striated throughout in a somewhat oblique direction.

Melania Pl. XLVIII.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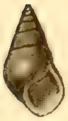
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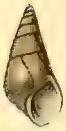
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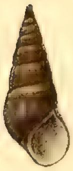
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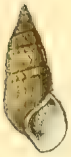
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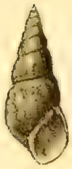
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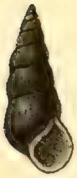
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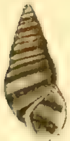
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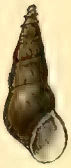
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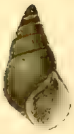
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Vincent Brooks, Imp

MELANIA.

Plate XLVIII.

Species 356. (Mus. Cuming.)

Melania Clarkei. *Mel. testâ subacutè subulatâ, olivaceâ, anfractibus undecim ad duodecim, primis paucis spiraliter liratis, suturis undique canaliculatis; aperturâ parviusculâ, oblongâ, ad basin paululum effusâ.*

Clarke's Melania. Shell rather sharply subulate, olive, whorls eleven to twelve, the first few spirally ridged, sutures throughout channelled; aperture rather small, oblong, a little effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 30. f. 4.

Hab. Tennessee, United States.

A narrow subulate shell, of which the earlier whorls are spirally ridged and even slightly keeled, whilst the sutures are excavately channelled throughout.

Species 357. (Mus. Cuming.)

Melania larvæformis. *Mel. testâ conico-ovatâ, olivaceâ, anfractibus sex ad septem, lævibus, primis perpaucis minutè carinatis; aperturâ ovatâ.*

The larva-shaped Melania. Shell conically ovate, olive, whorls six to seven, smooth, the first few minutely keeled; aperture ovate.

Lea, MS. in Mus. Cuming.

Hab. United States.

Of few whorls, convex and smooth, but yet minutely keeled near the apex.

Species 358. (Mus. Cuming.)

Melania Cubaniana. *Mel. testâ conico-ovatâ, solidiusculâ, flavescente-olivaceâ, anfractibus sex ad septem, declivi-convexis, lævibus; aperturâ ovatâ, ad basin paululum effusâ.*

The Cuba Melania. Shell conically ovate, rather solid, yellowish-olive, whorls six to seven, slopingly convex, smooth; aperture ovate, a little effused at the base.

D'Orbigny, MS. in Mus. Cuming.

Hab. Cuba.

Of a paler yellowish hue, more slopingly convex in form, without any indication of the early keeled growth so characteristic of the United States species.

Species 359. (Mus. Cuming.)

Melania angusta. *Mel. testâ acuminatâ, livido-olivaceâ, ad suturas flavescente, anfractibus novem ad decem, lævibus, primis paucis declivi-planatis et carinatis; aperturâ parviusculâ, rotundato-ovatâ, fauce pallidè violaceo-purpurascente, subcallosâ.*

The narrow Melania. Shell acuminated, livid-olive, yellowish at the sutures, whorls nine to ten, smooth, the first few slopingly flattened and keeled; aperture rather small, rotundately ovate, interior pale violet-purple, rather callous.

Anthony, MS. in Mus. Cuming.

Hab. United States.

This species, although it has the early keeled growth, partakes in maturer age of the character of the *Pachycheilus* form of the genus.

Species 360. (Mus. Cuming.)

Melania costulata. *Mel. testâ subcylindraceo-oblongâ, virescente, tenuiculâ, anfractibus septem, longitudinaliter arcuatim plicato-costatis, primis perpaucis carinatis, deinde cancellatis, exinde lævigatis; aperturâ ovatâ, ad basin paululum effusâ.*

The finely-ribbed Melania. Shell somewhat cylindrically oblong, pale-green, rather thin, whorls seven, longitudinally arcuately plicately ribbed, the first few whorls keeled, then cancellated, afterwards smooth; aperture ovate, a little effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. p. 19. pl. 6. f. 39.

Hab. Tennessee, United States.

Longitudinally the whorls of this species are plicately ribbed throughout in an arched concentric manner; transversely they are first keeled, then cancellated, and lastly smooth.

Species 361. (Mus. Cuming.)

Melania Kirtlandiana. *Mel. testâ obtusè subulatâ, olivaceâ, anfractibus septem ad octo, longitudinaliter undique plicato-striatis, primis perpaucis carinatis; aperturâ ovatâ, ad basin paululum effusâ.*

Kirtland's Melania. Shell obtusely subulate, olive, whorls seven to eight, longitudinally plicately striated throughout, the first few keeled; aperture ovate, a little effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 4.

Hab. Ohio, United States.

Of simple character, rather closely plicately striated throughout.

Species 362. (Mus. Cuming.)

This shell is the *M. nigrita*, Poey, from Cuba, and the same species as that named by me, in error, *M. Scarabus*, at Pl. XIV. Sp. 90.

Species 363. (Mus. Cuming.)

MELANIA EXILIS. *Mel. testâ acuminato-ovatâ, flavescente, fusco-purpureo intensè latifasciatâ, anfractibus sex ad septem, convexis, lævibus, primis perpaucis supra suturas subtilissimè carinatis; aperturâ ovatâ, labro columellari tenuè reflexo.*

THE SLENDER MELANIA. Shell acuminately ovate, yellowish, broadly banded with dark fuscous purple, whorls six to seven, convex, smooth, the first few very finely keeled above the sutures; aperture ovate, columellar lip thinly reflected.

HALDEMAN, MS. in Mus. Cuming.

Hab. ——?

A delicate conspicuously banded shell, with very much the aspect of a *Bulimus*.

Species 364. (Mus. Cuming.)

MELANIA TRIPARTITA. *Mel. testâ acuminatâ, olivaceâ, anfractibus octo ad novem, subrotundatis, spiraliter remotè liratis, primis paucis validè carinatis, deinde longitudinaliter plicato-costatis, exinde lævibus; aperturâ parvâ, semilunari.*

THE TRIPARTITE MELANIA. Shell acuminated, olive, whorls eight to nine, somewhat rounded, spirally distantly ridged, the first few strongly keeled, then longitudinally plicately ribbed, afterwards smooth; aperture small, semilunar.

Hab. ——?

This is, without doubt, a United States species, but I know of none with which it can be satisfactorily identified.

Species 365. (Mus. Cuming.)

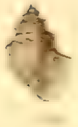
MELANIA SAFFORDII. *Mel. testâ conicâ, subobesâ, virente-olivaceâ, anfractibus sex ad septem, lævibus, ultimo multo majore; aperturâ subamplâ, ovatâ.*

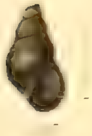
SAFFORD'S MELANIA. Shell conical, rather stout, greenish-olive, whorls six to seven, smooth, last whorl much the larger; aperture rather large, ovate.

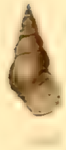
LEA, Trans. Amer. Phil. Soc. vol. x. p. 56. pl. 30. f. 10.

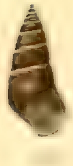
Hab. Tennessee, United States.

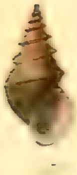
A smooth, conical species, rather stoutly inflated in the last whorl, and of a bright greenish-olive colour.

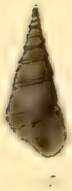


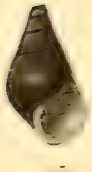


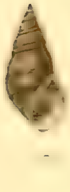


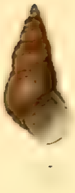


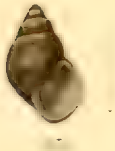












MELANIA.

Plate XLIX.

Species 366. (Mus. Cuming.)

Melania corolla. *Mel. testâ ovatâ, tenui, pellucidâ, pallidè olivaceâ, anfractibus quinque ad sex, supernè latè angulatis, ad angulum spinosis; aperturâ subquadrato-ovatâ.*

The corolla Melania. Shell ovate, thin, transparent, pale olive, whorls five to six, broadly angled round the upper part, spined at the angle; aperture somewhat squarely ovate.

Gould, Pro. Nat. Hist. Soc. Boston, U. S., vol. ii. p. 223.

Hab. —— ?

A minute semitransparent broadly angled shell, finely spined at the angle.

Species 367. (Mus. Cuming.)

Melania nigrina. *Mel. testâ subulato-conicâ, ustulato-nigrâ, nitente, anfractibus paucis, lævibus, rotundatis; aperturâ parvâ, semilunari, purpureo-nigrâ.*

The dingy Melania. Shell subulately conical, burnt-black, shining, whorls few, smooth, rounded; aperture small, semilunar, purple-black.

Lea, MS. in Mus. Cuming.

Hab. Shasta, California.

A small shining purple-black shell of few whorls.

Species 368. (Mus. Cuming.)

Melania semicarinata. *Mel. testâ subulato-conicâ, olivaceâ, anfractibus septem ad octo, rotundatis, longitudinaliter plicato-striatis, primis perpaucis tenuè carinatis; aperturâ rotundato-ovatâ.*

The half-keeled Melania. Shell subulately conical, olive, whorls seven to eight, rounded, longitudinally plicately striated, first few finely keeled; aperture rotundately ovate.

Say, Amer. Conch., pl. 47. f. 4.

Hab. United States.

A small shell of very simple character.

Species 369. (Mus. Cuming.)

Melania gracilis. *Mel. testâ cylindraceo-acuminatâ, solidiusculâ, livido-olivaceâ, ad suturas lutescente, anfractibus septem, plano-declivibus; aperturâ parviusculâ, subcallosâ, violaceo-purpureâ.*

The graceful Melania. Shell cylindrically acuminated, rather solid, livid-olive, yellowish at the sutures, whorls seven, flatly sloping; aperture rather small, rather callous, violet-purple.

Lea, Trans. Amer. Soc., vol. viii. pl. 5. f. 11.

Hab. Tennessee, United States.

The peculiar colouring of this species is like that of *M. angusta*, but the shell is composed of fewer whorls and is of a more compactly sloping cylindrical form.

Species 370. (Mus. Cuming.)

Melania torulosa. *Mel. testâ ovatâ, spirâ acuminato-turritâ, olivaceâ, anfractibus septem ad octo, supernè concavis, deinde validissimè carinatis; aperturâ ovatâ, fauce purpurascente.*

The corded Melania. Shell ovate, spire acuminately turreted, olive, whorls seven to eight, concave round the upper part, then very strongly keeled; aperture ovate, purplish in the interior.

Anthony, Ann. Lyc. Nat. Hist. 1854, p. 110. pl. 3. f. 10.

Hab. Tennessee, United States.

The keel of this species, though fading on the last whorl, is developed with remarkable force upwards to the apex.

Species 371. (Mus. Cuming.)

Melania intensa. *Mel. testâ acuminatâ, purpureo-nigrâ, anfractibus decem, plano-convexis, supra suturas unicarinatis, ultimo ad basin subangulatis et liratis; aperturâ parviusculâ, purpureo-nigrâ.*

The dark Melania. Shell acuminated, purple-black, whorls ten, flatly convex, encircled with a keel above the sutures, last whorl slightly angled and ridged at the base; aperture rather small, purple-black.

Anthony, MS. in Mus. Cuming.

Hab. United States.

A very characteristic purple-black shell, encircled by a keel so near to the suture as to give them an appearance of being more than usually excavated.

December, 1860.

Species 372. (Mus. Cuming.)

Melania funebralis. *Mel. testâ obeso-conicâ, atrâ, anfractibus sex ad septem, primis perpaucis longitudinaliter subplicatis; aperturâ ovatâ, fauce cæruleâ.*

The mourning Melania. Shell stoutly conical, deep black, whorls six to seven, the first few faintly longitudinally plicated; aperture ovate, interior bluish.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 56.

Hab. Tennessee, United States.

An intensely black shell, with the last whorl rather stoutly inflated.

Species 373. (Mus. Cuming.)

Melania depygis. *Mel. testâ conico-ovatâ, flavescente-olivaceâ, purpureo-fusco remotè fasciatâ, anfractibus septem, lævibus, convexis, ad apicem minutè carinatis; aperturâ ovatâ.*

The stout Melania. Shell conically ovate, yellowish-olive, distantly banded with purple-brown, whorls seven, smooth, convex, minutely keeled at the apex; aperture ovate.

Say, Amer. Conch., pl. 8. f. 4, 5.

Hab. United States.

A simple species, with only a very faint indication of keel sculpture at the apex.

Species 374. (Mus. Cuming.)

Melania crebricostata. *Mel. testâ ovato-turritâ, fulvo-olivaceâ, anfractibus septem ad octo, longitudinaliter confertim plicato-costatis, prope suturas lineari-impressis; aperturâ ovatâ.*

The close-ribbed Melania. Shell ovately turreted, fulvous-olive, whorls seven to eight, longitudinally closely plicately ribbed, linearly impressed next the sutures; aperture ovate.

Lea, MS. in Mus. Cuming.

Hab. United States.

A well-defined species, in which the ribs are unusually close-set and are notched round the upper part by a spiral impressed line.

Species 375. (Mus. Cuming.)

Melania Nickliniana. *Mel. testâ abbreviato-conicâ, obeso-inflatâ, olivaceâ, anfractibus quinque, convexis, lævibus; aperturâ ovatâ, subamplâ, fauce purpurascente.*

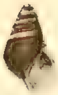
Nicklin's Melania. Shell shortly conical, stoutly inflated, olive, whorls five, convex, smooth; aperture ovate, rather large, purplish within.

Lea, Trans. Amer. Phil. Soc., vol. viii. pl. 5. f. 18.

Hab. Bath County, United States.

A dark green stoutly inflated shell of very few whorls, tinged about the columella with flesh-purple.

Melania Pl. L.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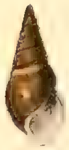
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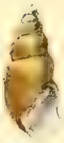
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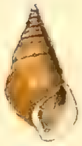
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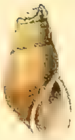
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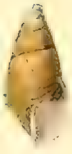
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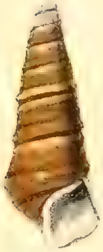
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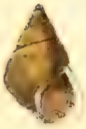
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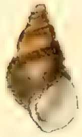
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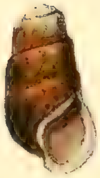
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Sowerby del. et lith

Vincent Brooks Imp

MELANIA.

Plate L.

Species 376. (Mus. Anthony.)

Melania intersita. *Mel. testâ ovato-conoideâ, livescente-olivaceâ, ad suturas pallidâ, anfractibus quinque, convexo-declivibus, lævigatis, anfractu ultimo medio obsoletè carinato; aperturâ ovatâ, columellâ tenuè reflexâ.*

The intervening Melania. Shell ovately conoid, livid-olive, pale at the sutures, whorls five, convexly sloping, smooth, last whorl obsoletely keeled in the middle; aperture ovate, columella thinly reflected.

Haldeman, MS. in Mus. Anthony.

Hab. Indiana, United States.

A smooth conoid livid-olive shell, obsoletely keeled round the last whorl, with the faintest possible indication of keels on the second and third whorls.

Species 377. (Mus. Anthony.)

Melania torta. *Mel. testâ subulatâ, ad basin ventricosâ, fulvescente-olivaceâ, spirâ acuminatâ, anfractibus octo ad novem, primis paucis tenuè gemmato-carinatis, cæteris lævibus; aperturâ ovatâ, mediocri, columellâ tenuè reflexâ, carneo-tinctâ.*

The twisted Melania. Shell subulate, ventricose at the base, fulvous-olive, spire acuminated, whorls eight to nine, the first few finely gemmately keeled, the rest smooth; aperture ovate, moderate, columella thickly reflected, flesh-tinged.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 30.

Hab. Tennessee, United States.

A sharply acuminated shell, peculiarly rotundately ventricose at the base, encircled towards the apex with fine gemmate keels.

Species 378. (Mus. Anthony.)

Melania curvilabris. *Mel. testâ ovato-turritâ, subobesâ, pallidè olivaceâ, anfractibus sex, supernè rudè tumidis, medio concaviusculis, undique concentricè arcuato-striatis; aperturâ subquadrato-ovatâ, columellâ excurvato-incurvâ, brevi, labro medio conspicuè sinuato.*

The curved-lip Melania. Shell ovately turreted, rather stout, pale-olive, whorls six, rudely swollen round the upper part, rather concave in the middle, concentrically arcuately striated throughout; aperture somewhat squarely ovate, columella excavately incurved, short, lip conspicuously sinuated in the middle.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 102. pl. 3. f. 1 *a*, *b*.

Hab. Tennessee, United States.

A rather solid, shortly turreted shell, in which the lines of growth appear throughout in the form of concentric arched striæ; the lip at the margin of the aperture following the same direction.

Species 379. (Mus. Anthony.)

Melania cinnamomea. *Mel. testâ ovato-conoideâ, cinnamomeo-fuscâ, zonâ angustâ castaneâ ad suturas, anfractibus sex ad septem, declivi-ventricosis, longitudinaliter corrugato-striatis, anfractu ultimo irregulariter transversim rugato; aperturâ ovatâ, ad basin effusâ.*

The cinnamon Melania. Shell ovately conoid, cinnamon-brown, with a narrow chestnut zone at the sutures, whorls six to seven, slopingly ventricose, longitudinally wrinkle-striated, last whorl irregularly transversely wrinkled; aperture ovate, effused at the base.

Anthony, MS.

Hab. Alabama, United States.

An obese cinnamon-coloured shell, encircled by a narrow chestnut band at the sutures. The surface is sculptured with longitudinal close-set striæ and transverse interrupted keel-like wrinkles.

Species 380. (Mus. Anthony.)

Melania dislocata. *Mel. testâ ovato-turritâ, flavescente, anfractibus convexis, longitudinaliter plicato-costatis, costis versus basin obsoletis; aperturâ ovatâ, parviusculâ, ad basin vix effusâ.*

The displaced Melania. Shell ovately turreted, yellowish, whorls convex, longitudinally plicately ribbed, ribs obsolete towards the base; aperture ovate, rather small, a little effused at the base.

Ravenel, MS. in Mus. Anthony.

Hab. Dan River, North Carolina, United States.

The shell here figured is Ravenel's original type of this species, from the collection of Mr. Anthony. It is of a

March, 1861.

pale-yellowish colour, with the whorls longitudinally plicately ribbed.

Species 381. (Mus. Anthony.)

MELANIA CASTA. *Mel. testâ subpyramidali-ovatâ, pallidè olivaceâ vel stramineâ, anfractibus plano-declivibus, ultimo infra medium carinis cingulato; aperturâ oblongo-ovatâ, ad basin subangustè effusâ.*

THE CHASTE MELANIA. Shell somewhat pyramidally ovate, pale-olive or straw-colour, whorls flatly sloping, last whorl encircled with keels below the middle; aperture oblong-ovate, rather narrowly effused at the base.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 100. pl. 2. f. 10.

Hab. Alabama, United States.

Of a rather narrow pyramidally-conoid growth, with the whorls flatly sloping and smooth above the middle, but encircled with equidistant keels below it.

Species 382. (Mus. Anthony.)

MELANIA PLANOGYRA. *Mel. testâ pyramidali-turritâ, fulvo-olivaceâ, fasciâ castaneâ angustâ prope suturas cingulatâ, anfractibus octo ad novem, lævigatis, concavis, deinde carinatis; aperturâ trapezoideâ, brevi, labro sinuato, columellâ contorto-reflexâ.*

THE FLATLY-COILED MELANIA. Shell pyramidally turreted, fulvous-olive, encircled near the sutures with a narrow chestnut band, whorls eight to nine, smooth, concave, then keeled; aperture trapezoid, short, lip sinuated, columella twistedly reflected.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 111. pl. 3. f. 11.

Hab. Alabama, United States.

A fine strongly turreted shell, with the whorls concavely excavated in the middle, then keeled. It is of a delicate fulvous olive-colour, encircled just above the keel with a faint narrow chestnut band.

Species 383. (Mus. Anthony.)

MELANIA GERMANA. *Mel. testâ obeso-conoideâ, subventricosâ, livido-olivaceâ, intus purpurascente, anfractibus quinque, longitudinaliter corrugato-striatis, lævibus; aperturâ ovatâ, subamplâ, ad basin parum effusâ.*

THE ALLIED MELANIA. Shell stoutly conoid, somewhat ventricose, livid-olive, purplish within, whorls five, longitudinally wrinkle-striated, smooth; aperture ovate, rather large, but little effused at the base.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 61.

Hab. Catawba River, Alabama, United States.

A short swollen shell, the last whorl being much larger in proportion to the others than usual. Externally it is of a dark livid-olive; internally the aperture is stained with a characteristic purple-red.

Species 384. (Mus. Anthony.)

MELANIA OPACA. *Mel. testâ ovato-conoideâ, subventricosâ, ustulato-olivaceâ, ad suturas pallidâ, ad basin viridi, anfractibus quinque, declivi-convexis, ultimo ad peripheriam obtusè angulato; aperturâ ovatâ, subamplâ, columellâ conspicuè livido-purpureâ, tenuè reflexâ.*

THE OPAQUE MELANIA. Shell ovately conoid, somewhat ventricose, burnt-olive, pale at the sutures, green at the base, whorls five, slopingly convex, last whorl obtusely angled at the periphery; aperture ovate, rather large, columella conspicuously livid-purple, thinly reflected.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 58.

Hab. Alabama, United States.

The colour of this species is very characteristic. The whorls are burnt-brown above, pale at the sutures, and they are green below, whilst the columella is richly stained with livid-purple.

Species 385. (Mus. Anthony.)

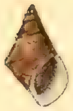
MELANIA EXCAVATA. *Mel. testâ obeso-turritâ, fusco-olivaceâ, anfractibus rudè excavatis, deinde tumido-carinatis; aperturâ parviusculâ, columellâ callosâ, livido-purpureo tinctâ.*

THE EXCAVATED MELANIA. Shell stoutly turreted, fuscous-olive, whorls rudely excavated, then tumidly keeled; aperture rather small, columella callous, stained with livid-purple.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 99. pl. 2. f. 18.

Hab. Alabama, United States.

The columella of this species is stained with deep livid-purple, like the preceding, but the shell is thick and closely turreted, with the whorls rudely excavated.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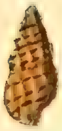
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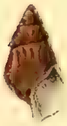
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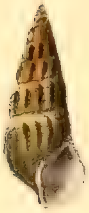
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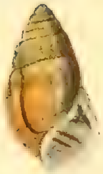
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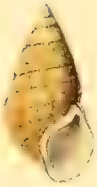
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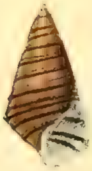
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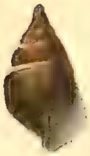
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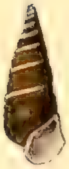
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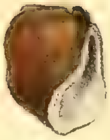
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Vincent Brooks Imp

MELANIA.

Plate LI.

Species 386. (Mus. Anthony.)

Melania angulata. *Mel. testâ fusiformi-conoideâ, fuscescente, anfractibus sex, primis perpaucis carinatis, cæteris declivi-convexis, lævibus, malleatis, deinde acutangulis; aperturâ oblongo-ovatâ, ad basin prolongatâ et dilatato-effusâ, columellâ tenuè reflexâ.*

The angled Melania. Shell fusiformly conoid, brownish, whorls six, the first few keeled, the rest slopingly convex, smooth, malleated, then sharply angled; aperture oblong-ovate, prolonged and dilately effused at the base, columella thinly reflected.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 117. pl. 3. f. 17.

Hab. Tennessee, United States.

This little sharply angled species has very much the appearance of a shell in an immature stage of growth. The base is rather prolonged and effused.

Species 387. (Mus. Anthony.)

Melania formosa. *Mel. testâ turritâ, fulvescente, fasciis duabus angustis elevatis rufo-fuscis cingulatâ, anfractibus sex, convexis, longitudinaliter plicato-costatis, costis distantibus, anfractu ultimo ad basin spiraliter lirato; aperturâ ovatâ, parviusculâ.*

The beautiful Melania. Shell turreted, fulvous, encircled with two narrow raised red-brown bands, whorls six, convex, longitudinally plicately ribbed, ribs distant, last whorl spirally ridged at the base; aperture ovate, rather small.

Anthony, MS.

Hab. Alabama, United States.

A delicately tinted fulvous shell, encircled by narrow cord-like raised red-brown bands.

Species 388. (Mus. Anthony.)

Melania scabrella. *Mel. testâ subfusiformi-conoideâ, sordidè castaneâ, anfractibus quinque ad sex, declivi-convexis, concentricè densè plicato-liratis, supra et infra carinatis, suturis impressis; aperturâ oblongo-ovatâ, ad basin canaliculato-productâ.*

The rough Melania. Shell somewhat fusiformly conoid, dull-chestnut, whorls five to six, slopingly convex, concentrically closely plicately ridged, keeled above and below, sutures impressed; aperture oblong, ovate, canaliculately produced at the base.

Anthony, MS.

Hab. Georgia, United States.

Distinguished by a characteristic sculpture of arched concentric ridges, interrupted by a keel, which gives a peculiarly impressed aspect to the sutures.

Species 389. (Mus. Anthony.)

Melania glauca. *Mel. testâ subulato-turritâ, glauco-olivaceâ, ad suturas pallidâ, anfractibus octo ad novem, undique obliquè arcuatim costatis, anfractibus primis paucis liris tenuibus transversis clathratis; aperturâ ovatâ, ad basin subcanaliculato-effusâ, intus purpurascente tinctâ, labro sinuato, nigro-marginato.*

The glaucous Melania. Shell subulately turreted, glaucous-olive, pale at the sutures, whorls eight to nine, obliquely arcuately ribbed throughout, the first few whorls latticed with fine transverse ridges; aperture ovate, somewhat canaliculately effused at the base, slightly purple-stained within, lip sinuous, black-edged.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 57.

Hab. Tennessee, United States.

An excellent species, in which the whorls are sculptured throughout with curved ribs, while the upper ones are latticed with fine transverse cords.

Species 390. (Mus. Anthony.)

Melania grisea. *Mel. testâ subobeso-ovatâ, solidâ, virescente-olivaceâ obscurè fasciatâ, anfractibus quinque ad sex, convexis, lævibus; aperturâ ovatâ, columellâ tenuè reflexa.*

The grey Melania. Shell rather stoutly ovate, solid, greenish-olive, obscurely banded, whorls five to six, convex, smooth; aperture ovate, columella thinly reflected.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 61.

Hab. Tennessee River, North Alabama, United States.

A shell of very simple character, of which Mr. Anthony has only the single specimen here figured.

Species 391. (Mus. Anthony.)

Melania textilosa. *Mel. testâ obeso-conoideâ, stramineâ, spirâ acuminatâ, anfractibus septem, declivi-convexis, corrugato-liratis et malleatis, hic illic nodulatis; aperturâ ovatâ, ad basin subangustè effusâ, columellâ callosâ.*

The embroidered Melania. Shell stoutly conoid, straw-coloured, spire acuminated, whorls seven, slopingly convex, corrugately ridged and malleated, here and there noduled; aperture ovate, rather narrowly effused at the base, columella callous.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 101. pl. 2. f. 20.

Hab. Georgia, United States.

A solid straw-coloured shell, stout in the middle, sharply acuminated towards the apex, obscurely sculptured with noduled ridges, the interstices between which are malleated.

Species 392. (Mus. Anthony.)

Melania tæniolata. *Mel. testâ pyramidali-conoideâ, solidiusculâ, fulvescente, nigro-viridi funiculatâ, anfractibus sex ad septem, undique spiraliter costatis et liratis; aperturâ parvâ, columellâ reflexâ, ad basin canaliculato-effusâ.*

The filleted Melania. Shell pyramidally conoid, rather solid, fulvous, corded with blackish-green, whorls six to seven, spirally ribbed and ridged throughout; aperture small, columella reflected and canaliculately effused at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 59.

Hab. Alabama, United States.

Of a solid pyramidal form, conspicuously encircled with sharply defined blackish-green cords upon a subtransparent yellowish ground.

Species 393. (Mus. Anthony.)

Melania glandula. *Mel. testâ globoso-conoideâ, nigro-olivaceâ, ad suturas pallidâ, spirâ attenuato-acuminatâ, anfractibus septem ad octo, angustis, lævibus; aperturâ angustè ovatâ, ad basin contorto-canaliculatâ.*

The acorn Melania. Shell globosely conoid, blackish-olive, pale at the sutures, spire attenuately acuminated, whorls seven to eight, narrow, smooth; aperture narrowly ovate, twistedly channelled at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 123.

Hab. Tennessee, United States.

A dark globose bulbous-looking shell, with an attenuately acuminated spire and twistedly channelled base.

Species 394. (Mus. Anthony.)

Melania hastata. *Mel. testâ cylindraceo-subulatâ, nigro-castaneâ, ad suturas pallidâ, anfractibus octo ad novem, plano-tumidis, lævibus; aperturâ parviusculâ, intus purpurascente, labro sinuato, columellâ tenuè reflexâ, ad basin emarginato-effusâ.*

The spear-like Melania. Shell cylindrically subulate, blackish-chestnut, pale at the sutures, whorls eight to nine, flatly swollen, smooth; aperture rather small, purplish within, lip sinuated, columella thinly reflected, emarginately effused at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 85.

Hab. Alabama, United States.

A dark flatly swollen shell, with a dilately produced sinuated lip, purplish in the interior.

Species 395. (Mus. Anthony.)

Melania abscida. *Mel. testâ ovatâ, olivaceâ-fuscâ, crassâ, lævigatâ, anfractibus plano-convexis, basin versus transversim liratis; aperturâ subangustâ, ad basin calloso-canaliculatâ.*

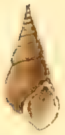
The decapitated Melania. Shell ovate, olive-brown, thick, smooth, whorls flatly convex, transversely ridged towards the base; aperture rather narrow, callously channelled at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 56.

Hab. Alabama, United States.

A short stout square-built shell, with all but the last whorl and a half entirely eroded.

Melania Pl. LII.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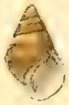
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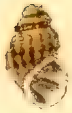
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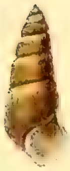
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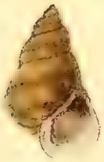
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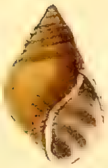
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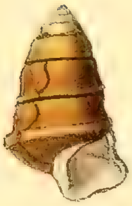
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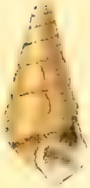
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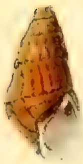
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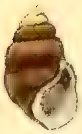
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Vincent Brooks Imp

MELANIA.

Plate LII.

Species 396. (Mus. Anthony.)

Melania clavæformis. *Mel. testâ acuminato-subulari, semipellucido-olivaceâ, rufescente, anfractibus octo ad novem, lævibus, declivi-convexis; aperturâ ovatâ, columellâ tenuissimè reflexâ.*

The club-shaped Melania. Shell acuminately subulate, semitransparent-olive, reddish, whorls eight to nine, smooth, slopingly convex; aperture ovate, columella very thinly reflected.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 10.

Hab. Southern United States.

A sharply acuminated shell of from eight to nine, rather narrow, smooth whorls of a semitransparent reddish-olive colour.

Species 397. (Mus. Anthony.)

Melania abrupta. *Mel. testâ ovatâ, medio ventricosâ, flavescente-olivaceâ, ad suturas pallidâ, spirâ brevi, anfractibus quatuor ad quinque, declivi-convexis, ultimo subinflato, medio obtusè angulato; aperturâ ovatâ, subamplâ, columellâ latè appressâ.*

The abrupt Melania. Shell ovate, ventricose in the middle, yellowish-olive, pale at the sutures, spire short, whorls four to five, slopingly convex, the last rather inflated, obtusely angled in the middle; aperture ovate, rather large, columella broadly appressed.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 32.

Hab. Alabama, United States.

A species of only four to five whorls, of which the last is rather inflated.

Species 398. (Mus. Anthony.)

Melania interrupta. *Mel. testâ ovato-turritâ, virescente, subpellucidâ, fasciis angustis olivaceo-fuscis cingulatâ, anfractibus paucis, rotundatis, obliquè plicato-nodulatis; aperturâ orbiculari-ovatâ, columellâ vix reflexâ.*

The interrupted Melania. Shell ovately turreted, greenish, somewhat transparent, encircled with narrow olive-brown bands, whorls few, rounded, obliquely plicately noduled; aperture orbicularly ovate, columella scarcely reflected.

Haldeman, MS. in Mus. Anthony.

Hab. Southern United States.

A prettily variegated plicately noduled species, of rather transparent substance, encircled with narrow bands, which have a brown rusty appearance internally, but on the outside are a dark olive-green.

Species 399. (Mus. Anthony.)

Melania subcylindracea. *Mel. testâ cylindraceo-turritâ, glaucescente-olivaceâ, anfractibus plano-convexis, rudè arcuatim plicato-striatis; aperturâ ovatâ, parviusculâ, labro sinuato, ad basin effuso.*

The cylindrical Melania. Shell cylindrically turreted, glaucous-olive, whorls flatly convex, rudely arcuately plicately striated; aperture ovate, rather small, lip sinuated, effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 14.

Hab. Tennessee, United States.

A simple elongately convoluted shell, rudely sculptured throughout with arched striæ of growth, corresponding with the sinuation of the lip.

Species 400. (Mus. Anthony.)

Melania stygia. *Mel. testâ subpyramidali-ovatâ, rudè ventricosâ, olivaceâ, obscurè fasciatâ, apice subobtuso, anfractibus quinque, convexis, subcorrugatis; aperturâ ovatâ, ad basin angulato-effusâ.*

The infernal Melania. Shell somewhat pyramidally ovate, rudely ventricose, olive, obscurely banded, apex rather obtuse, whorls five, convex, rather wrinkled; aperture ovate, angularly effused at the base.

Say, MS. in Mus. Anthony.

Hab. Tennessee, United States.

A rather short rudely ventricose shell, effusedly angled at the base of the aperture.

Species 401. (Mus. Anthony.)

Melania fuliginosa. *Mel. testâ ovato-ventricosâ, fulvâ, rufo-fusco obscurè latifasciatâ, apice obtuso, anfractibus quinque, obliquè plicato-corrugatis; aperturâ ovatâ, amplâ, columellâ ad basin contorto-reflexâ.*

The smoky Melania. Shell ovately ventricose, fulvous, obscurely broadly banded with red-brown, apex obtuse, whorls five, obliquely plicately wrinkled; aper-

April, 1861.

ture ovate, large, columella twistedly reflected at the base.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 7.

Hab. Tennessee, United States.

Of a more ventricosely ovate from than the preceding species, the last whorl being more than usually large in proportion.

Species 402. (Mus. Anthony.)

MELANIA FILUM. *Mel. testâ pyramidali-turritâ, solidâ, fulvo-olivaceâ, apice cylindraceo-obtuso, anfractibus sex ad septem, plano-concavis, densè arcuato-striatis, deinde carinâ rudi validâ cingulatis; aperturâ parviusculâ, columellâ brevi, calloso-contortâ, ad basin canaliculato-effusâ.*

THE THREAD MELANIA. Shell pyramidally turreted, solid, fulvous-olive, apex cylindrically obtuse, whorls six to seven, flatly concave, closely arcuately striated, then encircled with a strong rude keel; aperture rather small, columella short, callously twisted, canaliculately effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 41.

Hab. Alabama, United States.

This shell partakes very closely of the characters of *M. canaliculata* and *undulata*, Say, and does not agree very precisely with Mr. Lea's figure of *M. filum*, it has however been sent to me by Mr. Anthony, as an undoubted type of that species.

Species 403. (Mus. Anthony.)

MELANIA PRASINATA. *Mel. testâ subulato-turritâ, fulvescente-olivaceâ aut virente, fasciâ unicâ fuscâ ad basin cingulatâ, anfractibus septem ad octo, plano-convexis, ultimo obtusè angulato; aperturâ parviusculâ, columellâ contorto-reflexâ, subeffusâ.*

THE GREENISH MELANIA. Shell subulately turreted, yellowish-olive or greenish, encircled round the base with a single brown band, whorls seven to eight, flatly convex, the last obtusely angled; aperture rather small, columella twistedly reflected, a little effused.

CONRAD, Silliman's Journ. vol. xxv. pl. 1. f. 14.

Hab. Southern United States.

A rather solid subulately turreted shell, twistedly appressed at the base.

Species 404. (Mus. Anthony.)

MELANIA LECONTIANA. *Mel. testâ pyramidali-conoideâ, ad basin subrotundatâ, ustulato-olivaceâ aut virente, anfractibus paucis, declivibus, plicato-nodulosis; aperturâ ovatâ, columellâ vix reflexâ.*

LE CONTE'S MELANIA. Shell pyramidally conoid, somewhat rounded at the base, scorched olive, or greenish, whorls few, sloping, plicately noduled; aperture ovate, columella scarcely reflected.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 29.

Hab. Georgia, United States.

The nodules are chiefly conspicuous round the sutural edge and periphery of the whorls.

Species 405. (Mus. Anthony.)

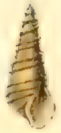
MELANIA OVOIDEA. *Mel. testâ subquadrato-ovatâ, solidiusculâ, fusco-olivaceâ, obscurè bifasciatâ, anfractibus quatuor ad quinque, plano-gibbosis, suturis impressis; aperturâ ovatâ, columellâ appressè reflexâ, purpureo tinctâ.*

THE OVOID MELANIA. Shell somewhat squarely ovate, rather solid, fuscous-olive, obscurely two-banded, whorls four to five, flatly gibbous, sutures impressed; aperture ovate, columella appressly reflected, tinged with purple.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 38.

Hab. Louisiana, United States.

A rather solid shell with the whorls flatly gibbously bulging, and the columella purple-stained.



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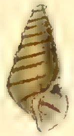

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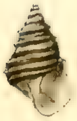

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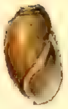

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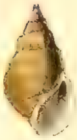

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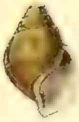

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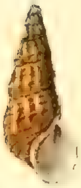

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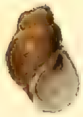

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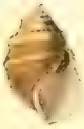

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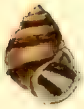


415

Vincent Brooks Imp

MELANIA.

Plate LIII.

Species 406. (Mus. Anthony.)

Melania Haleiana. *Mel. testâ acuminato-turritâ, pellucido-olivaceâ, anfractibus octo ad novem, declivi-planatis, deinde bicarinatis, ultimo tricarinato; aperturâ ovatâ, parviusculâ, ad basin paululum effusâ.*

Hales' Melania. Shell acuminately turreted, transparent-olive, whorls eight to nine, slopingly flattened, then encircled with two keels, last whorl three-keeled; aperture ovate, rather small, a little effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 35.

Hab. Alexandria, Louisiana, United States.

This specimen does not agree very well with Mr. Lea's description and figure, but it may be a keeled variety of the species.

Species 407. (Mus. Anthony.)

Melania tenera. *Mel. testâ elongato-ovatâ, subcylindraceâ, flavescente-olivaceâ, fasciis angustis distantibus rufo-fuscis cingulatâ, anfractibus declivi-convexis, primis paucis prope suturam carinatis; aperturâ ovatâ, ad basin angustè effusâ, columellâ tenuè reflexâ, subproductâ.*

The delicate Melania. Shell elongately ovate, subcylindrical, yellowish-olive, encircled with narrow distant red-brown bands, whorls slopingly convex, the first few keeled next the suture; aperture ovate, narrowly effused at the base, columella thinly reflected, rather produced.

Anthony, MS.

Hab. Alabama, United States.

Chiefly distinguished by its encircling pattern of red-brown linear bands upon a pale yellowish-olive ground.

Species 408. (Mus. Anthony.)

Melania eximia. *Mel. testâ pyramidali-conoideâ, subobesâ, livido-virente, prope suturas flavescente, spirâ acutissimâ, anfractibus septem ad octo, concavo-declivibus, deinde acutissimè carinatis, ultimo quadricarinato; aperturâ ovatâ, fauce fasciis duabus fuscis distantibus pictâ, columella ad basin reflexo-effusâ.*

The choice Melania. Shell pyramidally conoid, rather stout, livid-green, yellowish next the sutures, spire very sharp, whorls seven to eight, concavely sloping, then very sharply keeled, last whorl four-keeled aperture ovate, interior marked with two distant brown bands, columella reflectedly effused at the base.

Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 107. pl. 3. f. 7.

Hab. Tennessee, United States.

A strongly-marked livid-olive shell, encircled with fine wiry keels of a paler hue.

Species 409. (Mus. Anthony.)

Melania Auriculæformis. *Mel. testâ cylindraceo-ovatâ, fuscescente-olivaceâ, anfractibus paucis, ultimo multo majore, lævibus vel longitudinaliter plicato-striatis; aperturâ oblongo-ovatâ, columellâ subcallosâ, ad basin arcuato-rotundatâ.*

The Auricula-shaped Melania. Shell cylindrically ovate, fuscous-olive, whorls few, the last much the larger, smooth, or longitudinally plicately striated; aperture oblong-ovate, columella rather callous, arcuately rounded at the base.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 39.

Hab. Tuscaloosa, Alabama, United States.

A simple ovate shell, of few whorls, the last being largely oblong in proportion.

Species 410. (Mus. Anthony.)

Melania inflata. *Mel. testâ ovatâ, in medio ventricosâ et obtusè carinatâ, flavescente-olivaceâ, anfractibus paucis, declivi-convexis; aperturâ subamplâ, columellâ tenuè reflexâ, ad basin attenuato-productâ.*

The inflated Melania. Shell ovate, ventricose and obtusely keeled in the middle, yellowish-olive, whorls few, slopingly convex; aperture rather large, columella thinly reflected, attenuately produced at the base.

Haldeman, MS. in Mus. Anthony.

Hab. Southern United States.

A shell of apparently few whorls, of which the last is rather large and ventricose, faintly keeled at the periphery.

Species 411. (Mus. Anthony.)

Melania grossa. *Mel. testâ obeso-fusiformi, crassâ, flavescente-olivaceâ, spirâ acutâ, anfractibus septem, pri-*

April, 1861.

mis angustis, arcuato-plicatis, ultimo lævigato, rotundato; aperturâ oblongo-ovatâ, columellâ ad basin contorto-effusâ.

THE STOUT MELANIA. Shell stoutly fusiform, thick, yellowish-olive, spire sharp, whorls seven, the first narrow, arcuately plicated, the last smooth, rounded; aperture oblong-ovate, columella twistedly effused at the base.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 59.

Hab. Tennessee, United States.

A shell of stout growth, curiously arcuately plicated round the upper edge of the whorls.

Species 412. (Mus. Anthony.)

MELANIA NASSULA. *Mel. testâ acuminato-turritâ, fulvo-olivaceâ, anfractibus octo ad novem, convexis, liris spiralibus costisque plicatis arcuatis undique clathratis; aperturâ ovatâ, ad basin parum effusâ.*

THE NASSA-LIKE MELANIA. Shell acuminately turreted, fulvous-olive, whorls eight to nine, convex, latticed throughout with spiral ridges and arched plicate ribs; aperture ovate, but little effused at the base.

CONRAD, Freshwater Shells, pl. 8. f. 9.

Hab. Alabama, United States.

Latticed throughout with well-sculptured ribs and ridges.

Species 413. (Mus. Anthony.)

MELANIA CRISTATA. *Mel. testâ abbreviato-turritâ, cristatâ, fulvo-olivaceâ, spirâ brevi, subimmersâ, anfractibus quatuor ad quinque, supernè marginatis, medio carinatis, suturis canaliculatis; aperturâ subamplâ, columellâ tenuè reflexâ, ad basin paululum effusâ.*

THE CRESTED MELANIA. Shell shortly turreted, thick, fulvous-olive, spire short, rather immersed, whorls four to five, edged round the upper part, keeled round the middle, sutures channelled; aperture rather large, columella thinly reflected, a little effused at the base.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 108. pl. 3. f. 8.

Hab. Alabama, United States.

A curious, shortly turreted shell, with the spire so far immersed as to make the sutures narrowly channelled.

Species 414. (Mus. Anthony.)

MELANIA PLEBEJUS. *Mel. testâ ovato-conoideâ, fusco-olivaceâ, anfractibus paucis, declivi-planis, lævibus, ultimo medio obtusè carinato; aperturâ trigono-ovatâ, ad basin rotundatâ, columellâ appressè incurvâ.*

THE PLEBEIAN MELANIA. Shell ovately conoid, fuscous-olive, whorls few, slopingly flattened, smooth, the last obtusely keeled round the middle; aperture triangularly ovate, rounded at the base, columella appressly incurved.

ANTHONY, Pro. Boston, Soc. Nat. Hist. 1851.

Hab. Arkansas, United States.

A smooth conical shell, obtusely keeled round the middle, rotundately appressed at the base.

Species 415. (Mus. Anthony.)

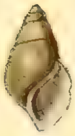
MELANIA FUSCOCINCTA. *Mel. testâ abbreviato-conicâ, obesâ, fulvo-olivaceâ, fasciâ latâ purpureo-fuscâ cingulatâ, spirâ brevi, anfractibus quatuor, convexo-declivibus, lævigatis; aperturâ ovatâ, columellâ brevi, tenuè reflexâ.*

THE BROWN-BELTED MELANIA. Shell shortly conical, stout, fulvous-olive, encircled with a broad purple-brown band, spire short, whorls four, convexly sloping, smooth; aperture ovate, columella short, thinly reflected.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 120. pl. 3. f. 20.

Hab. Alabama, United States.

A short, stout, somewhat Trochiform shell, encircled with a very characteristic broad brown band upon a yellowish ground.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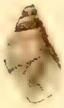
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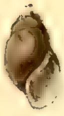
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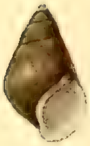
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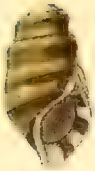
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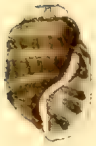
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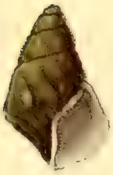
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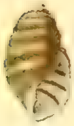
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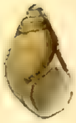
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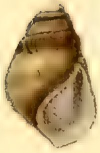

425

MELANIA.

PLATE LIV.

Species 416. (Mus. Anthony.)

MELANIA PALLESCENS. *Mel. testâ fusiformi-ovatâ, medio obsoletè angulato-carinatâ, olivaceo-virente, lævigatâ, anfractibus quinque ad sex, supernè declivi-planulatis; aperturâ oblongo-ovatâ, ad basin subattenuato-effusâ, labro medio sinuato.*

THE PALE MELANIA. Shell fusiformly ovate, obsoletely angularly keeled in the middle, olive-green, smooth, whorls five to six, slopingly flattened round the upper part; aperture oblong-ovate, rather attenuately effused at the base, lip sinuated in the middle.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 43.

Hab. Tennessee, United States.

Of a somewhat fusiform shape, the aperture being attenuately effused at the base, smooth olive-green, obscurely angled round the periphery of the last whorl.

Species 417. (Mus. Anthony.)

MELANIA PALLIDULA. *Mel. testâ ovatâ, medio angulato-carinatâ, fulvo-olivaceâ, fasciâ angustâ unicâ fulvescente cingulatâ, anfractibus quatuor ad quinque, supernè declivi-convexis, lævibus; aperturâ ovatâ, columellâ ad basin tenuè reflexâ.*

THE PALE MELANIA. Shell ovate, angularly keeled round the middle, fulvous olive, encircled with a single narrow brown band, whorls four to five, slopingly convex round the upper part, smooth; aperture ovate, columella thinly reflected at the base.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 115. pl. 3. f. 15.

Hab. Tennessee, United States.

Of a shorter ovate form than the preceding species, and of a paler fulvous colour, encircled by a single narrow fuscous band.

Species 418. (Mus. Anthony.)

MELANIA CORONILLA. *Mel. testâ ovatâ, solidiusculâ, livido-olivaceâ, anfractibus quatuor ad quinque, supernè obliquè plicato-tuberculatis; aperturâ ovatâ, parviusculâ, columellâ ad basin tenuè effusâ.*

THE LITTLE CROWN MELANIA. Shell ovate, rather solid, livid-olive, whorls four to five, obliquely plicately tubercled at the upper part; aperture ovate, rather small, columella thinly effused at the base.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 126. pl. 3. f. 27.

Hab. Tennessee, United States.

Well distinguished by its stunted obliquely tubercled spire.

Species 419. (Mus. Anthony.)

MELANIA BRUNNEA. *Mel. testâ conico-ovatâ, subfusiformi, sordidè olivaceâ, anfractibus quinque, cito dilatantibus, declivibus, ultimo ventricoso, obscurè interruptè transversim lirato; aperturâ ovatâ, columellâ ad basin reflexo-effusâ.*

THE BROWN MELANIA. Shell conically ovate, slightly fusiform, dark-olive, whorls five, quickly enlarging, sloping, last whorl ventricose, obscurely interruptedly transversely ridged; aperture ovate, columella reflectedly effused at the base.

ANTHONY, Ann. Lyc. Nat. Hist. New York, 1854, p. 92. pl. 2. f. 10.

Hab. Alabama, United States.

The last whorl of this species presents indications of spiral ridges, obscure and irregularly interrupted.

Species 420. (Mus. Anthony.)

MELANIA TRIVITTATA. *Mel. testâ oblongo-ovatâ, rudè turritâ, olivaceo-virente, fusco trifasciatâ, anfractibus paucis, supernè obsoletè plicato-tuberculatis, deinde subcompressis, lævibus, ultimo conspicuè descendente; aperturâ parvâ, angustè ovatâ, ad basin attenuatè effusâ.*

THE THREE-FILLETED MELANIA. Shell oblong-ovate, rudely turreted, olive-green, encircled with three fuscous bands, whorls few, obsoletely plicately tubercled round the upper part, then somewhat compressed, smooth, last whorl conspicuously descending; aperture small, narrowly ovate, attenuately effused at the base.

Lithasia solida, Lea.

Hab. Alabama, United States.

The tubercled growth of this shell, although very imperfectly and rudely developed, appears to be a character of the species.

Species 421. (Mus. Anthony.)

Melania Showalteri. *Mel. testâ obeso-ovatâ, solidâ, fulvescente-olivaceâ, fusco trifasciatâ, spirâ brevi, anfractibus supernè obsoletè rudè plicato-tuberculatis, deinde convexis; aperturâ ovatâ, columellâ callosâ, ad basin parum effusâ.*

Showalter's Melania. Shell stoutly ovate, solid, fulvous-olive, encircled with three fuscous bands, spire short, whorls obsoletely rudely plicately tubercled at the upper part, then convex; aperture ovate, columella callous, but little effused at the base.

Lithasia Showalteri, Lea.

Hab. Alabama, United States.

Of a more obtuse and rounder growth than the preceding species, with a shorter spire.

Species 422. (Mus. Anthony.)

Melania nodata. *Mel. testâ conico-ovatâ, livido-olivaceâ, anfractibus paucis, declivibus, ultimo ventricoso, ad peripheriam obtusè angulato et tuberculato; aperturâ latè ovatâ, fauce purpureo tinctâ, columellâ rectâ, tenuè expansâ.*

The knobbed Melania. Shell conically ovate, livid-olive, whorls few, sloping, the last ventricose, obtusely angled and tubercled at the periphery; aperture broadly ovate, stained with purple within, columella straight, thinly expanded.

Melania tuberculata, Lea (not of Müller). Trans. Amer. Phil. Soc. vol. iv. pl. 15. f. 31 *a*, *b*.

Hab. Tennessee, United States.

Chiefly distinguished by its tuberculated structure, the tubercles not being at the upper part of the whorls, but round the periphery.

Species 423. (Mus. Anthony.)

Melania nuclea. *Mel. testâ obtusè ovatâ, subglobosâ, solidâ, fulvo-olivaceâ, fusco trifasciatâ, spirâ subimmersâ, anfractibus quatuor, rudè convexis; aperturâ latè ovatâ, parvâ, columellâ ad basin calloso-reflexâ.*

The kernel Melania. Shell obtusely ovate, somewhat globose, solid, fulvous-olive, encircled with three brown bands, spire slightly immersed, whorls four, rudely convex; aperture broadly ovate, small, columella callously reflected at the base.

Lithasia nuclea, Lea.

Hab. Alabama, United States.

This little species seems to be rather variable in growth, the spire being more immersed in some specimens than in others.

Species 424. (Mus. Anthony.)

Melania abbreviata. *Mel. testâ subacuminato-ovatâ, olivaceâ, spirâ acutâ, anfractibus quatuor ad quinque, modicè convexis, lævibus; aperturâ ovatâ, ad basin parum effusâ.*

The short Melania. Shell somewhat acuminately ovate, olive, spire sharp, whorls four to five, moderately convex, smooth; aperture ovate, but little effused at the base.

Anthony, Pro. Nat. Hist. Soc. Boston, 1851.

Hab. Tennessee, United States.

A simple well-formed shell, devoid of sculpture, with a sharper apex than usual.

Species 425. (Mus. Anthony.)

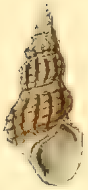
Melania expansa. *Mel. testâ conico-ovatâ, olivaceâ, brunneo obscurè fasciatâ et tinctâ, suturis pallidis, anfractibus quatuor ad quinque, supernè contracto-declivibus, longitudinaliter rudè plicato-striatis; aperturâ ovatâ, subamplâ, ad basin attenuato-effusâ, columellâ excavato-appressâ, purpureâ.*

The expanded Melania. Shell conically ovate, olive, obscurely banded and tinged with brown, sutures pale, whorls four to five, contractedly sloping round the upper part, longitudinally rudely plicately striated; aperture ovate, rather large, attenuately effused at the base, columella excavately appressed, purple.

Lea, MS. in Mus. Anthony. 1842

Hab. Tennessee, United States.

Distinguished, it may be observed, by a range of characters peculiarly its own.



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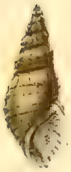

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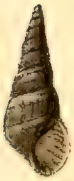

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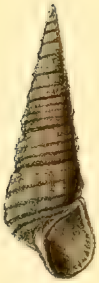

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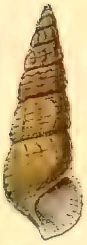

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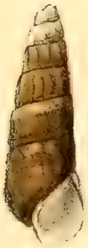

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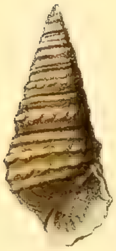

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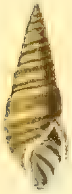

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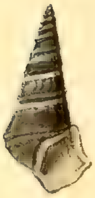

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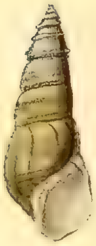

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Vincent Brooks, Imp

MELANIA.

Plate LV.

Species 426. (Mus. Anthony.)

Melania Etowahensis. *Mel. testâ acuminato-turritâ, fulvo-olivaceâ, fusco longitudinaliter obliquè strigatâ, anfractibus septem ad octo, supernè concavo-constrictis, obliquè longitudinaliter plicatis, spiraliter acutè noduloso-liratis; aperturâ latè ovatâ, parviusculâ, columellâ arcuato-contortâ.*

The Etowah Melania. Shell acuminately turreted, fulvous-olive, longitudinally obliquely streaked with brown, whorls seven to eight, concavely constricted at the upper part, obliquely longitudinally plicated, spirally sharply nodosely ridged; aperture broadly ovate, rather small, columella arcuately twisted.

Lea, MS. in Mus. Anthony.

Hab. Georgia, United States.

An elegantly convoluted species, very constricted at the sutures, sculptured throughout with fine spiral edges passing over oblique longitudinal plications.

Species 427. (Mus. Anthony.)

Melania Portellii. *Mel. testâ acuminato-subulatâ, virescente-olivaceâ, ad suturas latè pallidis, anfractibus septem ad octo, longitudinaliter subplicatis, spiraliter acutè liratis, liris in interstitiis plicarum interruptis; aperturâ ovatâ, parviusculâ, columellâ ad basin rotundato-effusâ.*

Portell's Melania. Shell acuminately subulate, greenish-olive, broadly pale at the sutures, whorls seven to eight, longitudinally faintly plicated, spirally sharply ridged, ridges interrupted in the interstices of the folds; aperture ovate, rather small, columella rotundately effused at the base.

Lea, MS. in Mus. Anthony.

Hab. South Carolina, United States.

There is a somewhat characteristic resemblance between this species and certain varieties of the North African *M. tuberculata.*

Species 428. (Mus. Anthony.)

Melania subularis. *Mel. testâ acutè subulari, livido-olivaceâ, anfractibus novem ad decem, undique spiraliter liratâ, liris subirregularibus, supremâ maximè conspicuâ; aperturâ ovatâ, parvâ, columellâ ad basin contorto-effusâ, sordidè purpureâ.*

The subular Melania. Shell sharply subulate, livid-olive, whorls nine to ten, spirally ridged throughout, ridges rather irregular, the uppermost the most conspicuous; aperture ovate, small, columella twistedly effused at the base, dark purple.

Lea, Trans. Amer. Phil. Soc. vol. iv. pl. 15. f. 30.

Hab. Niagara Falls, United States.

The uppermost of the spiral ridges of this species is larger than the rest and of a more livid-blue aspect.

Species 429. (Mus. Anthony.)

Melania tracta. *Mel. testâ acuminato-turritâ, sordidè olivaceâ, anfractibus undecim ad duodecim, plano-concavis, carinâ unicâ versus partem inferiorem cingulatis, carinâ prope apicem prominente, versus aperturam gradatim evanidâ, anfractu ultimo obscurè multilirato; aperturâ latè ovatâ, parvâ, ad basin subeffusâ, columellâ purpureâ.*

The elongated Melania. Shell acuminately turreted, dull-olive, whorls eleven to twelve, flatly concave, encircled towards the lower part by a single keel, keel prominent near the apex, gradually fading towards the aperture, last whorl obscurely many-ridged; aperture broadly ovate, small, a little effused at the base, columella purple.

Anthony, Pro. Nat. Hist. Soc. Boston, 1851.

Hab. Southern United States.

Characterized by an unusual number of whorls, encircled near the apex with a sharp keel, which gradually fades towards the aperture, and more ridges make their appearance.

Species 430. (Mus. Anthony.)

Melania Edgariana. *Mel. testâ acuminato-turritâ, olivaceâ, anfractibus novem ad decem, liris tenuibus numerosis undique funiculatis, anfractibus primis paucis obliquè arcuato-plicatis, plicis distantibus, gradatim evanidis; aperturâ ovatâ, parviusculâ, labro sinuato, columellâ contorto-appressâ.*

Edgar's Melania. Shell acuminately turreted, olive, whorls nine to ten, corded throughout with numerous fine ridges, the first few whorls obliquely arcuately plicated, folds distant, gradually fading away; aperture ovate, rather small, lip sinuated, columella twistedly appressed.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 37.
Hab. Tennessee, United States.

Sculptured throughout with rather close-set spiral ridges, crossed with rather distant oblique arched folds, which gradually fade away towards the aperture.

Species 431. (Mus. Anthony.)

Melania baculum. *Mel. testâ turritâ, fulvescente-olivaceâ, anfractibus octo ad novem, convexo-planatis, obscurè liratis et arcuato-plicatis; aperturâ parvâ, columellâ tenuè reflexâ.*

The staff Melania. Shell turreted, fulvous-olive, whorls eight to nine, convexly flattened, obscurely ridged and arcuately plicated; aperture small, columella thinly reflected.

Anthony, MS.
Hab. Tennessee, United States.

The characters of this species are not unlike those of the preceding, except that they are very obscure and irregular.

Species 432. (Mus. Anthony.)

Melania Foremani. *Mel. testâ obeso-subulatâ solidiusculâ, fulvo-olivaceâ, anfractibus octo, supernè concavis, deinde nitidè gemmato-carinatis; aperturâ subangustè ovatâ, labro sinuato, columellâ contorto-appressâ et recurvâ.*

Foreman's Melania. Shell stoutly subulate, rather solid, fulvous-olive, whorls eight, concave round the upper part, then neatly gemmately keeled; aperture rather narrowly ovate, lip sinuated, columella twistedly appressed and recurved.

Lea, MS. in Mus. Cuming.
Hab. Alabama, United States.

A very characteristic species, both as regards form and sculpture.

Species 433. (Mus. Anthony.)

Melania grata. *Mel. testâ ovato-subulari, flavescente-olivaceâ, fasciis fusco-virentibus undique cingulatâ, anfractibus octo ad novem, convexis, lævibus; aperturâ oblongo-ovatâ, parviusculâ, ad basin subeffusâ.*

The welcome Melania. Shell ovately subular, yellowish-olive, encircled throughout with fuscous-green bands, whorls eight to nine, convex, smooth; aperture oblong-ovate, rather small, a little effused at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 61.
Hab. Alabama, United States.

"Is it not pretty?" writes Mr. Anthony on the ticket enclosed in his box of nearly a dozen specimens of this charming species, all of which are gaily green-banded throughout upon a bright golden-olive ground.

Species 434. (Mus. Anthony.)

Melania livida. *Mel. testâ pyramidali-subulari, sordidè livido-olivaceâ, ad suturas albidâ, anfractibus decem, concavo-declivibus, primis perpaucis carinatis, ultimo ad basin angulato et carinato; aperturâ rhomboideâ, columellâ contorto-appressâ et recurvâ.*

The livid Melania. Shell pyramidally subular, dark livid-olive, whitish at the sutures, whorls ten, concavely sloping, first few whorls keeled, last whorl angled and keeled at the base; aperture rhomboid, columella twistedly appressed and recurved.

Melania varicosa, Ward (not of Troschel).
Hab. Ohio, United States.

Very closely allied to *M. elevata*, Say.

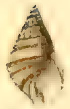
Species 435. (Mus. Anthony.)

Melania uncialis. *Mel. testâ acuminato-turritâ, flavescente-olivaceâ, fasciis duabus fusco-virentibus latis distantibus cingulatâ, anfractibus octo ad novem, plano-convexis, interdum lævibus, interdum obscurè liratis, anfractibus primis validissimè bicarinatis; aperturâ ovatâ, subeffusâ.*

The inch Melania. Shell acuminately turreted, yellowish-olive, encircled with two broad distant fuscous-green bands, whorls eight to nine, flatly convex, sometimes smooth, sometimes obscurely ridged, the first whorls very strongly two-keeled; aperture ovate, a little effused.

Haldeman, MS. in Mus. Anthony.
Hab. Tennessee, United States.

Curiously distinguished by the very prominent screw-like structure of the keels on the earlier whorls, although they are sometimes but little developed.



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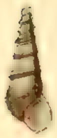

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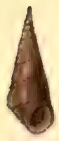

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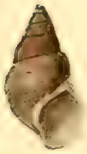

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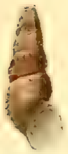

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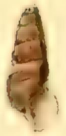

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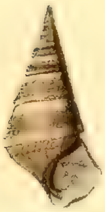

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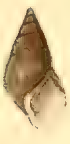

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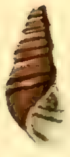

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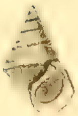

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MELANIA.

Plate LVI.

Species 436. (Mus. Anthony.)

Melania versipellis. *Mel. testâ acutè conico-ovatâ, flavescente-olivaceâ, virente-fusco variè fasciatâ, anfractibus sex, primis paucis tuberculato-plicatis, ultimo lævigato, rotundato; aperturâ oblongo-ovatâ, columellâ arcuato-contortâ.*

The changeable Melania. Shell sharply conically ovate, yellow-olive, variously banded with greenish-brown, whorls six, the first few tubercularly plicated, the last smooth, rounded; aperture oblong-ovate, columella arcuately twisted.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 60.

Hab. Tennessee, United States.

Curiously tubercularly plicated on the first few whorls.

Species 437. (Mus. Anthony.)

Melania gracillima. *Mel. testâ gracili-turritâ, tenuiculâ, livido-olivaceâ, anfractibus octo ad novem, undique tricarinatis, carinis versus aperturam gradatim evanidis; aperturâ ovatâ, minutâ, columellâ tenuè reflexâ.*

The very slender Melania. Shell slenderly turreted, rather thin, livid-olive, whorls eight to nine, encircled throughout with three keels, keels gradually fading towards the aperture; aperture ovate, very small, columella thinly reflected.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 62.

Hab. South Carolina, United States.

A slenderly turreted semitransparent species, more or less faintly three-keeled throughout.

Species 438. (Mus. Anthony.)

Melania attenuata. *Mel. testâ subulatâ, intus extusque purpureo-castaneâ, spirâ acuminatâ, anfractibus novem, plano-convexis, lævibus; aperturâ parvâ, rotundato-ovatâ, columellâ tenuè reflexâ.*

The attenuated Melania. Shell subulate, burnt-chestnut within and without, spire acuminated, whorls nine, flatly convex, smooth; aperture small, rotundately ovate, columella thinly reflected.

Anthony, MS.

Hab. Cuba.

A smooth straightly acuminated shell, of a deep purple-chestnut colour within and without, of a quite distinct type from any of the United States species.

Species 439. (Mus. Anthony.)

Melania glabra. *Mel. testâ conico-ovatâ, fulvo-bruneâ, ad suturas pallidâ, anfractibus sex ad septem, primis perpaucis tenuicarinatis, deinde rotundatis, lævibus vel obsoletè liratis; aperturâ ovatâ, ad basin subeffusâ.*

The smooth Melania. Shell conically ovate, fulvous-brown, pale at the sutures, whorls six to seven, the first few finely keeled, then rounded, smooth, or obsoletely ridged; aperture ovate, a little effused at the base.

Lea, MS. in Mus. Anthony.

Hab. Tennessee, United States.

Of a peculiar fulvous-brown colour, yellowish at the sutures, obscurely spirally ridged.

Species 440. (Mus. Anthony.)

Melania costifera. *Mel. testâ subulato-turritâ, fulvo-olivaceâ, semipellucidâ, anfractibus septem ad octo, convexis, longitudinaliter obsoletè plicatis et minutissimè striatis, spiraliter obscurè liratis; aperturâ ovatâ, parvâ, ad basin subeffusâ.*

The ribbed Melania. Shell subulately turreted, fulvous-olive, semitransparent, whorls seven to eight, convex, longitudinally obsoletely plicated, and very minutely striated, spirally obscurely ridged; aperture ovate, small, a little effused at the base.

Haldeman, MS. in Mus. Anthony.

Hab. Illinois, United States.

A semitransparent fulvous-olive shell, very minutely longitudinally striated, the striæ in the interstices between the spiral ridges having somewhat the appearance of punctures.

Species 441. (Mus. Anthony.)

Melania columella. *Mel. testâ subulato-turritâ, fulvo-olivaceâ, anfractibus numerosis, plano-convexis, obliquè plicato-costatis, costis in anfractu ultimo evanidis; aperturâ ovatâ, parvâ, ad basin subeffusâ.*

May, 1861.

THE LITTLE PILLAR MELANIA. Shell subulately turreted, fulvous-olive, whorls numerous, flatly convex, obliquely plicately ribbed, ribs fading in the last whorl; aperture ovate, small, a little effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 33.

Hab. Tennessee, United States.

The plaited sculpture of this species consists of ribs terminating abruptly on the penultimate whorls.

Species 442. (Mus. Anthony.)

MELANIA ELEVATA. *Mel. testâ acutè pyramidali, pallidè fulvâ, interdum obscurè fasciatâ, anfractibus decem, primis paucis acutè carinatis, cæteris concavo-declivibus, lævigatis, ultimo infernè carinato; aperturâ rhomboideâ, labro sinuato, columellâ contorto-effusâ supernè purpureo-tinctâ.*

THE ELEVATED MELANIA. Shell sharply pyramidal, pale-fulvous, sometimes obscurely banded, whorls ten, the first few sharply keeled, the rest concavely sloping, smooth, last whorl keeled round the lower part; aperture rhomboid, lip sinuated, columella twistedly effused, stained with purple at the upper part.

SAY, Journ. Acad. Nat. Sci. Philadelphia, vol. ii. p. 176.

Hab. Southern United States.

This species has a very characteristic blotch of purple on the upper part of the columella, but there are varieties in which it is absent.

Species 443. (Mus. Anthony.)

MELANIA TENEBROSA. *Mel. testâ ovatâ, acutè conicâ, fulvo-brunneâ, ad suturis flavescente; anfractibus quinque ad sex, declivibus, longitudinaliter plicatis, ultimo medio angulato, infernè lævi; aperturâ ovatâ, ad basin subattenuatâ, columellâ tenuè reflexâ, purpureâ.*

THE DARK MELANIA. Shell ovate, sharply conical, fulvous-brown, yellowish at the sutures, whorls five to six, sloping, longitudinally rudely plicated, last whorl angled in the middle, smooth below; aperture ovate, rather attenuated at the base, columella thinly reflected, purple.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 26.

Hab. Tennessee, United States.

Distinguished by a peculiar fulvous and greenish-brown hue, with a purplish columella, the whorls being rudely plicated at the upper part.

Species 444. (Mus. Anthony.)

MELANIA TAITIANA. *Mel. testâ attenuato-turritâ, fuscescente-olivaceâ, bifasciatâ, anfractibus sex ad septem, primis paucis carinatis, cæteris lævibus; aperturâ ovatâ, ad basin subeffusâ.*

TAIT'S MELANIA. Shell attenuately turreted, brownish, olive, two-banded, whorls six to seven, the first few keeled, the rest smooth; aperture ovate, a little effused at the base.

LEA, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 5.

Hab. Alabama, United States.

A dark, obscurely banded shell, rather attenuately turreted.

Species 445. (Mus. Anthony.)

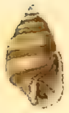
MELANIA CUBICOIDES. *Mel. testâ acutè pyramidali-conicâ, olivaceâ, anfractibus quinque, plano-declivibus, ultimo medio acutè angulato-conico; aperturâ ovatâ, parum effusâ.*

THE DIE-LIKE MELANIA. Shell sharply pyramidally conical, olive, whorls five, flatly sloping, last whorl sharply angularly keeled in the middle; aperture ovate, but little effused.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 60.

Hab. Indiana, United States.

Chiefly distinguished by the sharp-pyramidal cone which characterizes the spire.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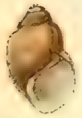
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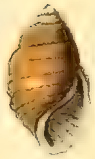
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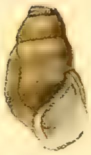
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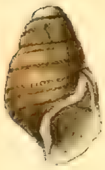
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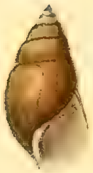
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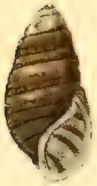
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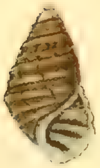
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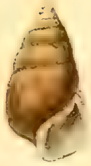
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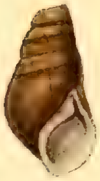
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MELANIA.

Plate LVII.

Species 446. (Mus. Anthony.)

Melania pumila. *Mel. testâ obtusè ovatâ, flavescente-olivaceâ, virente-fusco bifasciatâ, anfractibus quinque, convexis, lævibus; aperturâ oblongo-ovatâ, labro sinuato, columellâ ad basin contorto-canaliculatâ.*

The dwarfish Melania. Shell obtusely ovate, yellowish-olive, encircled with two greenish-brown bands, whorls five, convex, smooth; aperture oblong-ovate, lip sinuated, columella twistedly channelled at the base.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 36.

Hab. Alabama, United States.

A short, obtusely ovate, banded shell, rather more than usually twistedly channelled at the base.

Species 447. (Mus. Anthony.)

Melania undosa. *Mel. testâ obtusè ovatâ, fulvo-olivaceâ, spirâ brevi, subimmersâ, anfractibus quatuor, supernè rotundatis et rudè undatis; aperturâ ovatâ, subamplâ, columellâ subcallosâ.*

The waved Melania. Shell obtusely ovate, fulvous-olive, spire short, a little immersed, whorls four, rounded and rudely waved round the upper part; aperture ovate, rather large, columella rather callous.

Anthony, Ann. Lyc. Nat. Hist. New York, p. 124. pl. 3. f. 25.

Hab. Kentucky, United States.

An obtuse, rudely-waved, round-shouldered shell, with a very small spire.

Species 448. (Mus. Anthony.)

Melania ovalis. *Mel. testâ cylindraceo-ovatâ, solidiusculâ, fulvo-olivaceâ, interdum virente fasciatâ, spirâ parvâ, obtusâ, anfractibus quinque, convexis, undique validè spiraliter liratis; aperturâ subangustè ovatâ, ad basin attenuato-effusâ.*

The oval Melania. Shell cylindrically ovate, rather solid, fulvous-olive, sometimes green-banded, spire small, obtuse, whorls five, convex, strongly spirally ridged throughout; aperture rather narrowly ovate, attenuately effused at the base.

Lea, MS. in Mus. Cuming.

Hab. Alabama, United States.

Of an obtuse, cylindrically-ovate form, very regularly encircled throughout with equidistant ridges.

Species 449. (Mus. Anthony.)

Melania sordida. *Mel. testâ fusiformi-ovatâ, solidiusculâ, virente-olivaceâ, anfractibus paucis, declivi-convexis, lævibus, ultimo obtusè angulato; aperturâ ovatâ, labro sinuato, columellâ ad basin contorto-effusâ.*

The mean Melania. Shell fusiformly ovate, rather solid, greenish-olive, whorls few, slopingly convex, smooth, last whorl obtusely angled; aperture ovate, lip sinuated, columella twistedly effused at the base.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 15.

Hab. Alabama, United States.

A smooth, greenish-olive, somewhat fusiformly ovate shell.

Species 450. (Mus. Anthony.)

Melania plena. *Mel. testâ conico-ovatâ, solidâ, virente-olivaceâ, variè fasciatâ, spirâ obtusâ, anfractibus paucis, declivi-convexis, hic illic rudè varicosis; aperturâ rhomboideâ, ad basin attenuato-canaliculatâ, columellâ rectâ.*

The plump Melania. Shell conically ovate, solid, greenish-olive, variously banded, spire obtuse, whorls few, slopingly convex, here and there rudely varicose; aperture rhomboid, attenuately channelled at the base, columella straight.

Anthony, Ann. Lyc. Nat. Hist. New York, p. 121. pl. 3. f. 21.

Hab. Alabama, United States.

Distinguished by the recurrence of a few obscure varices, and by an attenuately channelled base.

Species 451. (Mus. Anthony.)

Melania gravida. *Mel. testâ conico-ovatâ, solidâ, flavescente-olivaceâ, anfractibus quinque ad sex, ad suturas subimpressis, deinde plano-convexis, lævibus; aperturâ ovatâ, columellâ tenuè reflexâ.*

The heavy Melania. Shell conically ovate, solid, yellowish-olive, whorls five to six, slightly appressed at the sutures, then flatly convex, smooth; aperture ovate, columella thinly reflected.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 59.
Hab. Alabama, United States.

A smooth, bright yellowish-olive shell, of somewhat rude growth.

Species 452. (Mus. Anthony.)

MELANIA VANUXEMIANA. *Mel. testâ subcylindraceo-ovatâ, virente-olivaceâ, undique plus minus fasciatâ, anfractibus quatuor ad quinque, spiraliter liratis, longitudinaliter eximiè plicato-nodulatis; aperturâ oblongo-ovatâ, ad basin effusâ.*

VANUXEM'S MELANIA. Shell somewhat cylindrically ovate, greenish-olive, more or less banded throughout, whorls four to five, spirally ridged, longitudinally faintly plicately noduled; aperture oblong-ovate, effused at the base.

LEA, MS. in Mus. Cuming. 1962
Hab. Alabama, United States.

A solid, cylindrically-ovate shell, brightly banded and ridged across, the ridges being faintly noduled by obscure longitudinal folds.

Fig. 543. (Mus. Anthony.)

Mr. Anthony suggests that this might be published as a new species, with the name *M. fragosa;* but I incline to think, on further consideration, that it is a variety of the preceding, in which the central keels are more strongly developed, imparting a more angular outline to the shell.

Species 454. (Mus. Anthony.)

MELANIA SOLIDA. *Mel. testâ obtusè pyramidali, solidâ, flavescente-olivaceâ, anfractibus septem ad octo, angustis, convexis, arcuato-striatis; aperturâ angustè ovatâ, labro sinuato, columellâ brevi, ad basin conspicuè contorto-canaliculatâ.*

THE SOLID MELANIA. Shell obtusely pyramidal, solid, yellowish-olive, whorls seven to eight, narrow, convex, arcuately striated; aperture narrowly ovate, lip sinuated, columella short, conspicuously twistedly channelled at the base.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 27.
Hab. Tennessee, United States.

A pyramidally conoid shell, with the whorls unusually closely convoluted, conspicuously twisted at the base into a short channel.

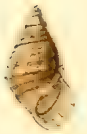
Species 455. (Mus. Anthony.)

MELANIA OLIVULA. *Mel. testâ conico-ovatâ, solidiusculâ, olivaceo-brunneâ, pallidissimè fasciatâ, anfractibus paucis, cylindraceo-convexis, lævibus vel obscurè spiraliter liratis; aperturâ ovatâ, parviusculâ, ad basin vix effusâ.*

THE LITTLE OLIVE MELANIA. Shell conically ovate, rather solid, olive-brown, very faintly banded, whorls few, cylindrically convex, smooth or obscurely spirally ridged; aperture ovate, rather small, scarcely effused at the base.

CONRAD, Amer. Journ. Sci. p. 25. pl. 1. f. 13.
Hab. Alabama, United States.

This, and not the shell represented at Plate XLIII., Fig. 309, is the true *M. olivula* of Conrad. It is usually much eroded towards the apex.



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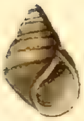

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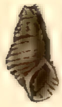

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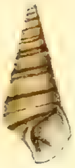

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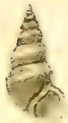

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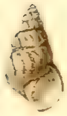

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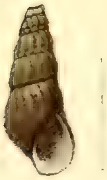

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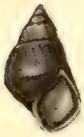

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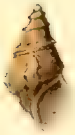

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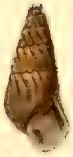

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MELANIA.

Plate LVIII.

Species 456. (Mus. Anthony.)

Melania corneola. *Mel. testá conico-ovatá, subfusiformi, flavescente, olivaceo-virente pallidè fasciatá, anfractibus quatuor ad quinque, declivi-convexis, obsoletè obliquè nodoso-plicatis, deinde tumidiusculis; aperturá ovatá, columellá appressá, parum reflexá.*

The horny Melania. Shell conically ovate, somewhat fusiform, yellowish, faintly banded with olive-green, whorls four to five, slopingly convex, obsoletely obliquely nodosely plicated, then rather swollen; aperture ovate, columella appressed, but little reflected.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 61.

Hab. Alabama, United States.

A bright little fusiformly-ovate shell, faintly obliquely plicated.

Species 457. (Mus. Cuming.)

Melania crenatella. *Mel. testá ovato-turritá, olivaceo-nigrá, anfractibus paucis, liris prominentibus, interstitiis subexcavatis, undique spiraliter funiculatis, anfractibus primis obliquè nodoso-plicatis; aperturá parvá, ovatá, ad basin minutissimè sinuatá.*

The crenated Melania. Shell ovately turreted, olive-black, whorls few, spirally corded throughout with prominent ridges, the interstices between which are excavated, the first whorls obliquely nodosely plicated; aperture small, ovate, very minutely sinuated at the base.

Lea, MS. in Mus. Anthony.

Hab. Tennessee, United States.

Chiefly distinguished by its strongly defined sculpture of transverse grooves and ridges.

Species 458. (Mus. Anthony.)

Melania cognata. *Mel. testá ovatá, tumidiusculá, virente-olivaceá, nigricante trizonatá, anfractibus quatuor ad quinque, declivi-convexis, lævibus, ultimo multo majore; aperturá ovatá, subamplá.*

The cognate Melania. Shell ovate, rather swollen, greenish-olive, encircled with three blackish zones, whorls four to five, slopingly convex, smooth, the last much the larger; aperture ovate, rather large.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 60.

Hab. Tennessee, United States.

Though a moderately thick shell, the last whorl is much inflated in proportion to the others.

Species 459. (Mus. Anthony.)

Melania lævigata. *Mel. testá subulatá, pellucido-olivaceá, lineá rufo-fuscá cingulatá, anfractibus octo ad novem, plano-convexis, lævibus vel arcuato-striatis, ultimo medio angulato; aperturá parviusculá, labro sinuato, columellá contorto-productá et effusá.*

The smooth Melania. Shell subulate, transparent-olive, encircled with a red-brown line, whorls eight to nine, flatly convex, smooth or arcuately striated, the last angled round the middle; aperture rather small, lip sinuated, columella twistedly produced and effused.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 5. f. 3.

Hab. Alabama, United States.

A rather sharply subulate transparent-olive shell, encircled throughout with a red-brown line.

Species 460. (Mus. Morelet.)

Melania exigua. *Mel. testá ovato-turritá, Scalariformi, anfractibus sex, subrotundatis, longitudinaliter plicato-costatis, costis juxta suturas evanidis; aperturá parvá, rotundato-ovatá, labro columellari tenuè reflexo.*

The little Melania. Shell ovately turreted, *Scalaria*-like, whorls six, somewhat rounded, longitudinally plicately ribbed, ribs disappearing next the sutures; aperture small, rotundately ovate, columellar lip thinly reflected.

Morelet, Test. Nov. Amer. Cent. p. 2.

Hab. Lac de Flores, Peten, Guatemala; Morelet.

I am unable to describe the colour of this pretty little *Scalaria*-like species, as all the specimens collected by M. Morelet in the above lake are dead and bleached.

Species 461. (Mus. Morelet.)

Melania Charreyi. *Mel. testá acuminato-conicá, solidá, minutè umbilicatá, luteo-virescente, ad suturas albidá, anfractibus septem ad octo, lævibus, ultimo ventricosiusculo, versus aperturam contracto; aperturá parvá, rotundato-ovatá, margine integro, reflexo, utrinque subsinuato, livido-purpurascente pallidissimè tincto.*

May, 1861.

Charrey's Melania. Shell acuminately conical, solid, minutely umbilicated, yellowish-green, whitish at the sutures, whorls seven to eight, smooth, rather ventricose, contracted towards the aperture; aperture small, rotundately ovate, with the margin entire, reflected, slightly sinuated above and below, faintly tinged with livid-purple.

Morelet, Moll. Terr. et Fluv. du Portugal, p. 97. pl. 7. f. 5.

Hab. Portugal (in the lagunes of Villa Reale and brackish swamps of the Tagus); Morelet.

A characteristic solid shell, with a rather contracted aperture, partaking of the forms of *Bithinia* and *Assiminea*. The animal, M. Morelet says, affects brackish rather than fresh water, in company with *Auriculæ* and certain *Paludinæ*.

Species 462. (Mus. Cuming.)

Melania curvicostata. *Mel. testâ ovato-turritâ, livido-olivaceâ, versus apicem lineâ rufescente cingulatâ, anfractibus convexis, longitudinaliter plicato-costatis, costis curvatis, versus aperturam gradatim evanidis; aperturâ ovatâ, ad basin subeffusâ, fauce purpurascente.*

The curved-ribbed Melania. Shell ovately turreted, livid-olive, encircled towards the apex with a reddish line, whorls convex, longitudinally plicately ribbed, ribs curved, gradually fading towards the aperture; aperture ovate, slightly effused at the base, interior tinged with purple.

Anthony, MS. in Mus. Cuming.

Hab. Florida, United States.

"This species," says Mr. Anthony, to whom it was sent for examination, "is, I think, entirely new, and a beautiful one it is, too; call it *curvicostata*."

Species 463. (Mus. Anthony.)

Melania nigrostoma. *Mel. testâ conico-ovatâ, intus extusque intensè purpureo-nigrâ, anfractibus quinque, plano-declivibus, lævibus, ultimo subobeso, medio obtusè angulato; aperturâ ovatâ.*

The black-mouth Melania. Shell conically ovate, deep purple-black within and without, whorls five, flatly sloping, smooth, the last rather stout, obtusely angled in the middle; aperture ovate.

Anthony, MS.

Hab. —— ?

A dense purple-black species, received from Mr. Anthony with the above name, without habitat.

Species 464. (Mus. Anthony.)

Melania assimilis. *Mel. testâ ovatâ, luteo-olivaceâ, spirâ pyramidali-turritâ, anfractibus sex, concavo-declivibus, lævibus, deinde acutè carinatis; aperturâ ovatâ, ad basin subeffusâ.*

The allied Melania. Shell ovate, yellowish-olive, spire pyramidally turreted, whorls six, concavely slanting, smooth, then sharply keeled; aperture ovate, slightly effused at the base.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 60.

Hab. Tennessee, United States.

A delicate yellowish-olive shell, characteristically pyramidally keeled throughout.

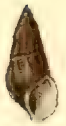
Species 465. (Mus. Cuming.)

Melania densicostata. *Mel. testâ subulato-turritâ, ustulato-olivaceâ, anfractibus octo ad novem, subplanulatis, longitudinaliter dense plicato-costatis, ultimo obtusè angulato; aperturâ parviusculâ, ovatâ, fauce pallidissimè purpurascente.*

The thick-ribbed Melania. Shell subulately turreted, burnt-olive, whorls eight to nine, rather flat, longitudinally densely plicately ribbed, the last obtusely angled; aperture rather small, ovate, interior very faintly tinged with purple.

Hab. Florida, United States.

This interesting little species is of the same type as *M. curvicostata*, just described, but the ribs are stout and comparatively straight, ending abruptly on an obtuse angle of the last whorl.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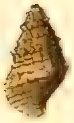
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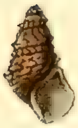
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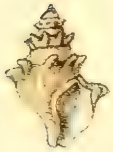
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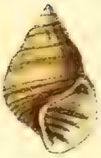
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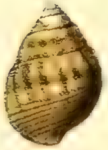
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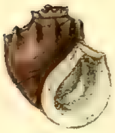
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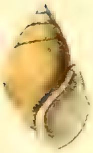
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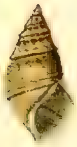
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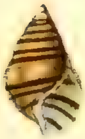
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Vincent Brooks, Imp

MELANIA.

Plate LIX.

Species 466. (Mus. Cuming.)

Melania striatula. *Mel. testâ turritâ, livido-olivaceâ, anfractibus septem, plano-convexis, transversim striatis, longitudinaliter plicato-costatis; aperturâ ovatâ, columellâ subcontorto-productâ.*

The finely striated Melania. Shell turreted, livid-olive, whorls seven, flatly convex, transversely striated, longitudinally plicately ribbed; aperture ovate, columella rather twistedly produced.

Lea, Trans. Amer. Phil. Soc. vol. viii. pl. 6. f. 49.

Hab. United States.

A conspicuously plicately-ribbed species, crossed by fine linear striæ.

Species 467. (Fig. *a*, *b*, Mus. Cuming.)

Melania papillosa. *Mel. testâ subpyramidali-ovatâ, fulvo-olivaceâ, anfractibus quinque, declivi-convexis, deinde carinatis, longitudinaliter subplicatis, transversim noduloso-liratis; aperturâ ovatâ, subamplâ, ad basin subeffusâ.*

The papillose Melania. Shell somewhat pyramidally ovate, fulvous-olive, whorls five, slopingly convex, then keeled, longitudinally faintly plicated, transversely nodulosely ridged; aperture ovate, rather large, slightly effused at the base.

Anthony, MS.

Hab. Florida, United States.

Distinguished by a papillose sculpture through being crossed with transverse ridges, passing over oblique longitudinal folds.

Species 468. (Mus. Cuming.)

Melania Cambojiensis. *Mel. testâ fusiformi-turritâ, fulvo-stramineâ, anfractibus sex, supernè concavo-angulatis, deinde inflatis, ad angulum conspicuè tuberculatis; aperturâ ovatâ, ad basin subcanaliculatâ, columellâ contorto-recurvâ.*

The Cambojia Melania. Shell fusiformly turreted, fulvous straw-colour, whorls six, concavely angled round the upper part, then inflated, conspicuously tubercled at the angle; aperture ovate, slightly chanelled at the base, columella twistedly recurved.

Hab. Cambojia; Mouhot.

This interesting new species, collected by the French naturalist and traveller, M. Mouhot, belongs probably to the genus *Io*.

Species 469. (Mus. Cuming.)

Melania obesa. *Mel. testâ globoso-ovatâ, solidâ, fulvescente, olivaceo-virente obscurè fasciatâ, spirâ brevi, subimmersâ, anfractibus quinque, declivi-rotundatis, longitudinaliter obsoletè rudè plicatis, ultimo infernè spiraliter liratis et striatis; aperturâ ovatâ, ad basin subeffusâ.*

The stout Melania. Shell globosely ovate, solid, fulvous, obscurely banded with olive-green, spire short, rather immersed, whorls five, slopingly rounded, longitudinally obsoletely rudely plicated, last whorl spirally ridged and striated round the lower part; aperture ovate, a little effused at the base.

Anthony, MS.

Hab. Alabama, United States.

A shell of solid growth, which Mr. Anthony returns with the remark, "This is new to me; it is a fine shell."

Species 470. (Mus. nostr.)

Melania retusa. *Mel. testâ suborbiculari, crassiusculâ, nigricante-brunneâ, spirâ brevi, anfractibus tribus ad quatuor, ultimo peramplo, supernè latiangulatis, ad angulum muricato-tuberculatis; aperturâ rotundato-ovatâ, columellâ appressè reflexâ.*

The blunt Melania. Shell nearly orbicular, rather thick, black-brown, spire short, whorls three to four, the last very large, broadly angled at the upper part, prickly tubercled at the angle; aperture rotundately ovate, columella appressly reflected.

Hemimitra retusa, Swainson.

Hab. Silhet, Bengal.

A short globosely inflated shell, of only three to four whorls, coronated with a row of prickly tubercles.

Species 471. (Mus. Cuming.)

Melania basalis. *Mel. testâ ovatâ, subventricosâ, fulvo-olivaceâ, fasciis tribus fusco-virentibus interdum cinctâ, spirâ brevi, obtusè conicâ, anfractibus quatuor, convexo-*

May, 1861.

declivibus; aperturâ ovatâ, subamplâ, ad basin subsinuatâ, columellâ appressè reflexâ.

THE BASAL MELANIA. Shell ovate, somewhat ventricose, fulvous-olive, sometimes encircled with three fuscous-green bands, spire short, obtusely conical, whorls four, convexly sloping; aperture ovate, rather large, slightly sinuated at the base, columella appressly reflected.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 33.

Hab. Alabama, United States.

An ovately conical shell, of four slopingly convex inflated whorls.

Species 472. (Mus. Cuming.)

MELANIA SEMIGRADATA. *Mel. testâ pyramidali-conicâ, fulvo-olivaceâ, fasciâ virente cingulatâ, anfractibus quinque ad sex, plano-declivibus, infernè acutè carinatis, primis paucis longitudinaliter plicatis, anfractu ultimo bicarinato; aperturâ ovatâ, ad basin subeffusâ.*

THE SEMIGRADATE MELANIA. Shell pyramidally conical, fulvous-olive, encircled with a green band, whorls five to six, flatly sloping, sharply keeled round the lower part, first few whorls longitudinally plicated, last whorl double-keeled; aperture ovate, a little effused at the base.

Hab. Alabama, United States.

A striking new species, in which the whorls are double-keeled at the periphery, the lower keel being hid in all but the last whorl by the overlapping of one whorl upon another.

Species 473. (Mus. Cuming.)

MELANIA LACHRYMA. *Mel. testâ conico-ovatâ, crassâ, fulvo-olivaceâ, nigro multilineatâ, anfractibus quinque, supernè declivi-convexis, deinde gibbosis et obtusè tuberculatis, longitudinaliter undique plicato-striatis; aperturâ angustè ovatâ, parviusculâ, ad basin sinuato-effusâ.*

THE TEAR MELANIA. Shell conically ovate, thick, fulvous-olive, encircled with numerous black lines, whorls five, slopingly convex round the upper part, then gibbous, and obtusely tubercled, longitudinally plicately striated throughout; aperture narrowly ovate, rather small, sinuately effused at the base.

ANTHONY, MS.

Hab. United States.

A prettily painted species, of a rude obtusely tubercled form.

MELANIA.

	Plate.	Species.
abbreviata, *Anth.*	LIV.	424
abrupta, *Lea*	LII.	397
abscida, *Anth.*	LI.	395
abjecta, *Lea*	XLVI.	341
acanthica, *Lea*	XXVI.	180
acicularis, *Pfeiff.*	XXXII.	209
aculeus, Lea	V.	26
acus, *Lea*	XIV.	92
acuta, *Lea*	XXXIX.	274
acutissima, *Busch*	X.	57
adusta, *Anth.*	XLVI.	338
Ægyptiaca, *Benson*	XXXIV.	227
ærea, *Reeve*	XI.	64
afra, Ziegler	XXXIV.	234
agrestis, *Reeve*	XX.	140
albescens, *Lea*	VIII.	42
albovittata, Brot	VII.	35
altipeta, *Anth.*	XXXIX.	280
amabilis, *Busch*	XXXIII.	223
amarula (*Helix*), Linn.	XXV.	177
ambusta, *Anth.*	XLVII.	352
ampla, *Anth.*	XLIII.	312
angulata, *Anth.*	LI.	386
angustispira, *Anth.*	XLVIII.	359
annulifera, *Conr.*	XLII.	308
anthracina, *Busch.*	IV.	17
apis, *Reeve*	XXXVIII.	266
aquatilis, *Reeve*	XII.	73
arachnoidea, *Anth.*	XIII.	83
arcticava, *Mousson*	XII.	71
Arroensis, *Reeve*	IX.	48
assimilis, *Anth.*	LVIII.	464
asperata, *Lam.*	I.	2
aspersa, *Reeve*	XLIV.	325
aspirans, *Hinds*	X.	53
athleta, *Anth.*	XXXVII.	258
attenuata, *Anth.*	LVI.	438
Auriculæformis, *Lea*	LIII.	409
atra (*Bul.*), Rich.	XXIX.	195
aurita (*Ner.*), Müll.	XXVIII.	190
Australis, *Reeve*	XIII.	82
baculus, *Reeve*	XVIII.	130
baculum, *Anth.*	LV.	431
balteata, *Reeve*	XX.	144
basalis, *Lea*	LIX.	471
Batesii, *Reeve*	XXX.	203
bella, *Conr.*	XXXVIII.	269
bellicosa, *Hinds*	XXVI.	180
Bensoni, *Reeve*	XIV.	96
bicincta, *Anth.*	XLV.	327
bicolor, *Anth.*	XXXVIII.	265
bicolor, Brot	III.	9
bicostata, *Anth.*	XXXVI.	246
biflammata, *Reeve*	XVII.	124
blatta, *Lea*	IV.	16
Boykiniana, *Lea*	XII.	77
Branca, Reeve	XXIX.	193
brevior, *Troschel*	XXX.	197
brevis, *Lea*	XLVI.	344
brevispira, *Anth.*	XXXVIII.	263
Brookei, *Reeve*	XXXI.	207
Broti, *Dohrn*	XXII.	160
Brumbyi, *Lea*	XXXIX.	277
brunnea, *Anth.*	LIV.	419
Buddii, *Lea*	XLIV.	324
Bullioides, *Reeve*	XI.	65
Buschiana, *Reeve*	X.	50
Byronensis, nonnul.	XXVIII.	191
cælatura, *Conrad*	XXXVI.	245
calculus, *Reeve*	XVII.	117
caliginosa, *Lea*	XLI.	293
Cambojiensis (*Io*), *Reeve*	LIX.	468
canaliculata, *Say*	XLII.	304
canalis, *Lea*	XI.	63
cancellata, Benson	XIV.	96
carbonata, *Reeve*	XIII.	88
carinifera, *Lam.*	XXXIX.	273
carino-costata, *Lea*	XLV.	333
casta, *Anth.*	L.	381
castanea, *Anth.*	XLVI.	337
catenaria, *Say*	XLV.	326
catenoides, *Lea*	XLI.	298

	Plate	Species.
Celebensis, Quoy	V.	26
Charpentieri, *Dunk.*	XII.	76
Charreyi, *Morelet*	LVIII.	461
chocolatum, Brot	XXII.	160
cimelium, *Reeve*	X.	52
cincta, *Lea*	VII.	35
cinnamomea, *Anth.*	L.	379
circumstriata, *Metc.*	XXXI.	205
circumsulcata, *Busch.*	XXX.	201
cinerea, *Morelet*	XXXV.	235
circincta, *Lea*	XL.	289
Clarkei, *Lea*	XLVIII.	356
clavæformis, *Anth.*	LII.	396
coarctata, *Lam.*	V.	22
cochlidium, *Lea*	VI.	27
cognata, *Anth.*	LVIII.	458
collistricta, *Reeve.*	XXII.	158
columella, *Lea*	LVI.	441
Commersoni, *Morelet*	XXXV.	237
comma, *Conrad*	XV.	107
compacta, *Anth.*	XLVI.	343
conica, *Say*	XXXVII.	252
conica, D'Orb.	XIV.	91
confusa, Dohrn.	V.	26
cornea, *Küster*	XXXIV.	233
corneola, *Anth.*	LVIII.	456
cornuta, *Lea*	XXV.	176
coronata, Küster	XXXIV.	234
coronilla, *Anth.*	LIV.	418
corolla, *Gould.*	XLIX.	366
corporosa, *Gould.*	XI.	68
corrugata, *Lam.*	III.	10
corvina, *Morelet*	XIX.	135
costata, *Quoy*	VI.	28
costellaris, *Lea*	XIV.	98
costifera, *Hald.*	LVI.	440
costulata, *Lea*	XXXIX.	272
costulata, *Lea*	XLVIII.	360
crassa, Parreyss	XXXIV.	233
crassilabrum, *Reeve*	XXXIII.	221
crebra, *Lea*	XXIII.	162
crebricostata, *Lea*	XLIX.	374
crenatella, *Lea*	LVIII.	457
crenifera, *Lea*	XXIV.	169
crenulata, *Chemn.*	V.	26
crepidinata, *Reeve*	XVII.	120
cristata, *Anth.*	LIII.	413
Cubaniana, *D'Orb.*	XLVIII.	358
cubicoides, *Anth.*	LVI.	445
Cumingii, *Lea*	V.	23
Cumingii (*Pachychilus*), Lea	XXI.	149
Curreyana, *Lea*	XL.	286
curta, *Hald.*	XLVI.	345
curvicostata, *Anth.*	LVIII.	462
curvilabris, *Anth.*	L.	378
cuspidata, *Anth.*	XL.	283
cylindracea, *Conrad*	XLIII.	311
dactylus, *Lea*	II.	7
datura, *Dohrn.*	XXXII.	213
decollata, *Lam.*	XII.	78
decorata, *Anth.*	XXXVI.	251
decora, *Lea*	XLI.	292
Dembea, *Rüppell.*	XXIII.	161
densa, *Anth.*	XXXVI.	250
densicostata, *Reeve*	LVIII.	465
denticulata, *Lea*	XXXII.	211
depygis, *Say*	XLIX.	373
Deshayesiana, *Reeve*	XXXIX.	278
Deshayesii, *Lea*	XLV.	330
diadema, *Lea*	XXV.	174
dislocata, *Ravenel*	L.	380
dura, *Reeve*	XXVII.	187
ebenum, *Lea*	XLVII.	350
Edgariana, *Lea*	LV.	430
elata, *Anth.*	XLV.	331
elegans, *Benson*	XXVI.	178
elegantula, *Anth.*	XLVII.	346
elevata, *Say*	LVI.	442
elongata, *Lea*	XLII.	305
enodes, Ziegler.	XXXIV.	234
episcopalis, *Lea*	III.	12
Erebus, *Reeve*	XII.	75
Etowahensis, *Lea*	LV.	426
excavata, *Anth.*	L.	385
exigua, *Morelet*	LVIII.	460
exilis, *Hald.*	XLVIII.	363
eximia, *Anth.*	LIII.	408
expansa, *Lea*	LIV.	425
exusta, *Reeve*	XII.	74
fasciolata, Lamarck	XIII.	87
fasciata, Menke	XLIV.	321
fastigiata, *Anth.*	XLII.	302
fastigiella, *Reeve*	XXVIII.	189
Feejeensis, *Reeve*	XXVI.	179
ferrea, *Reeve*	III.	9
ferruginea, *Lea*	XXI.	147
figurata, *Hinds*	IX.	49
filum, *Lea*	LII.	402
flammulata, *Busch*	IX.	45
florata, *Hinds*	XIV.	89

	Plate.	Species.
floricoma, *Reeve*	XV.	99
Floridensis, *Reeve*	XLV.	334
fœnaria, *Reeve*	XIX.	134
fontinalis, *Philippi*	XVII.	119
Foremani, *Lea*	LV.	432
formosa, *Anth.*	LI.	387
Fortunei, *Reeve*	XIV.	97
forulata, *Reeve*	XVII.	122
fulgida, *Reeve*	V.	24
fulgurans, *Hinds*	X.	55
fuliginosa, *Lea*	LII.	401
funebralis, *Anth.*	XLIX.	372
fusco-cincta, *Anth.*	LIII.	415
fusca, *Gmelin*	XXX.	200
germana, *Anth.*	L.	383
Gassiesii, *Reeve*	XXXV.	236
gemella, *Reeve*	XIV.	91
gemmulata, *Reeve*	XIII.	86
glans, *Busch*	XXXIV.	232
glabra, *Lea*	LVI.	439
glandula, *Anth.*	LI.	393
glaphyra, *Morelet*	II.	8
glauca, *Anth.*	LI.	389
Gouldiana, *Reeve*	XVI.	115
gracillima, *Anth.*	LVI.	437
gracilior, *Anth.*	XXXVI.	244
gracilis, *Lea*	XLIX.	369
gradata, *Anth.*	XXXVII.	261
granifera, *Busch*	XXXIII.	225
granum, *Busch*	XXIII.	219
graphium, *Morelet*	XXI.	150
grata, *Anth.*	LV.	433
gravida, *Anth.*	LVII.	451
grisea, *Anth.*	LI.	390
grossa, *Anth.*	LIII.	411
Guineensis, *Reeve*	XX.	142
Haleiana, *Lea*	LIII.	406
Hallenbeckii, *Lea*	XLV.	332
harpa, *Lea*	XLIII.	313
hastata, *Anth.*	LI.	394
hastula, Lea	VI.	28
Haysiana, *Lea*	XLIII.	310
Henrietta, *Gray*	I.	1
Herculea, *Gould*	II.	4
Heukelomiana, *Reeve*	XVII.	123
hippocastanum, *Reeve*	XXVII.	128
hippocastanum, Brot	XXVI.	181
histrionica, *Reeve*	XXIX.	192
Hollandri, *Férussac*	XXXIV.	234
hybrida, *Anth.*	XXIII.	163

	Plate.	Species.
Hydei, *Conrad*	XXXVI.	248
imbricata, *Anth.*	XXXVII.	259
immanis, *Morelet*	XXXV.	238
impressa, *Lea*	XLIII.	316
impura, *Lea*	XVI.	116
incisa, *Reeve*	XVII.	118
incurta, *Anth.*	XLI.	300
indefinita, *Lea*	X.	56
Indica, Eydoux	XXXI.	204
inflata, *Hald.*	LIII.	410
infrafasciata, *Anth.*	XLII.	301
infracostata, *Mousson*	III.	14
inhonesta, *Busch*	XXXIII.	226
inornata, *Anth.*	XXXVII.	256
inquinata, *Defrance*	II.	6
intensa, *Anth.*	XLIX.	371
intermedia, *Busch*	XX.	141
interrupta, *Hald.*	LII.	398
intersita, *Hald.*	L.	376
intertexta, *Anth.*	XLI.	296
iostoma, *Anth.*	XLVII.	351
Japonica, *Reeve*	XVII.	125
Judaica, *Roth*	XV.	103
juncea, *Lea*	VII.	33
Kirtlandiana, *Lea*	XLVIII.	361
lachryma, *Anth.*	LIX.	173
lacunata, *Reeve*	XIX.	136
lacustris, *Morelet*	II.	5
lævis, *Gray*	VIII.	40
lævigata, *Lea*	LVIII.	459
lævissima, *Sowerby*	XVIII.	126
lancea, *Lea*	VIII.	39
laqueata, *Say*	XL.	281
Largillierti, *Philippi*	XVIII.	127
larvæformis, *Lea*	XLVIII.	357
lateritia, *Lea*	XXIII.	164
Layardi, *Dohrn*	XV.	104
Lecontiana, *Lea*	LII.	404
lentiginosa, *Reeve*	XXXIII.	222
Liebmanni, *Philippi*	XX.	139
lineata, Troschel	XXIV.	170
lirata, *Benson*	XXIV.	170
litigiosa, Brot	VII.	34
livescens, *Menke*	XXXIV.	229
livida, *Reeve*	LV.	434
loricata, *Reeve*	XXX.	198
luctuosa, *Hinds*	XI.	61
lumbricus, *Reeve*	XX.	145
Luzoniensis, *Lea*	XXIV.	171
lyrata, Menke	XXIV.	170

	Plate.	Species.
Macapa, *Moricand*	XXIX.	194
macilenta, Parreyss	XXXIV.	234
macrospira, Morelet	XXXV.	240
Matoni, Gray	XXX.	200
maurula, *Reeve*	IV.	15
meretrix, *Reeve*	XXI.	152
Metcalfei, *Reeve*	XXXII.	212
Mexicana, *Reeve*	XVIII.	129
microstoma, Lea	XXIV.	172
Mindoriensis, *Lea*	VII.	34
mirifica, *Adams*	XXII.	159
mitra, Dunker	XXIV.	173
mitra, *Meuschen*	XXV.	175
modesta, *Lea*	XLI.	297
Moluccensis, *Quoy*	XL.	287
monilifera, *Busch*	XVI.	112
Morchii, *Beck*	XV.	108
Moreleti, *Reeve*	XXXV.	239
multilineata, *Say*	XLIV.	321
murrea, *Reeve*	XX.	138
mutans, *Gould*	XXXII.	215
Nassa, *Woodward*	XXXII.	216
Nassula, *Conrad*	LIII.	412
neglecta, *Anth.*	XXXVI.	247
Niagarensis, Lea	XXXIV.	229
Nickliniana, *Lea*	XLIX.	375
Nicobarica, *Morch.*	X.	54
nicotiana, *Reeve*	XXX.	202
nigricans (*Clea*), Adams	XXXIV.	231
nigrina, *Lea*	XLIX.	367
nigrita, *Poey*	XLVIII.	362
nigrocincta, *Anth.*	XXXVIII.	264
nigrostoma, *Anth.*	LVIII.	463
nodata, *Reeve*	LIV.	422
nodosa, Parreyss	XXXIV.	234
nodulosa, *Lea*	XXXIX.	276
nuclea, *Lea*	LIV.	423
nucleola, *Anth.*	XLVII.	348
nucula, *Reeve*	XXXII.	210
obeliscus, *Reeve*	IV.	20
obesa, *Anth.*	LIX.	469
obscura, Brot	VII.	34
obstricta, *Reeve*	VI.	30
occata, *Hinds*	XXXVIII.	267
occulta, *Anth.*	XXXVII.	254
Ocoeensis, *Lea*	XLV.	335
olivula, *Conrad*	LVII.	455
opaca, *Anth.*	L.	384
opiparis, *Morelet*	XXXV.	241
oppugnata, Lea	XLIII.	311

	Plate.	Species
orientalis, *Adams*	XXVI.	181
ornata, *Philippi*	XXI.	146
ovalis, *Lea*	LVII.	448
ovoidea, *Lea*	LII.	405
Owenii, Gray	XXVIII.	191
pagoda, *Lea*	XXVI.	182
pagodiformis, *Anth.*	XXXVII.	260
pagodulus, *Reeve*	XII.	72
palimpsestos, *Reeve*	XVI.	111
pallens, *Reeve*	XXI.	153
pallescens, *Lea*	LIV.	416
pallida, *Gundlach*	XXXIII.	220
pallidula, *Anth.*	LIV.	417
panucula, *Morelet*	XVIII.	131
pantherina, *Busch*	VIII.	38
papillosa, *Anth.*	LIX.	467
paucicosta, *Anth.*	XXXVII.	255
perangulata, *Conrad*	XL.	285
perfecta, *Mousson*	XIII.	84
perfusca, *Lea*	XLVII.	354
Pernambucensis, *Reeve*	I.	3
perpinguis, *Hinds*	XVI.	113
perrimosa, *Reeve*	XVI.	114
Petiti, *Philippi*	IX.	47
phlebotomum, *Reeve*	XV.	105
picta, *Hinds*	IX.	43
picturata, *Reeve*	XL.	290
pinguis, *Lea*	XLVII.	355
Pirenoides, *Reeve*	XVIII.	128
planogyra, *Anth.*	L.	382
plebejus, *Anth.*	LIII.	414
plicata, *Lea*	III.	13
plicifera, *Lea*	XL.	284
Plutonis, *Hinds*	VII.	36
plena, *Anth.*	LVII.	450
polygonata, *Lea*	III.	11
pontificalis, Busch	III.	14
porracea, *Reeve*	XXXII.	218
porcata, Jonas	V.	26
Portellii, *Lea*	LV.	427
Potosiensis, *Lea*	XLI.	295
prasinata, *Conrad*	LII.	403
proscissa, *Anth.*	XLVI.	342
proxima, *Say*	XXXIX.	275
pugilis, *Hinds*	XXVI.	180
pulchella, *Anth.*	XXXVII.	257
pulcherrima, *Anth.*	XLVI.	336
pulchra, *Busch*	IV.	19
pumila, *Lea*	LVII.	446
punctulata, Grateloup	XV.	100

	Plate.	Species.
pupoidea, *Anth.*	XXXVI.	249
pyramidalis, *Morelet*	V.	25
pyramis, *Benson*	X.	51
pyramis, Busch	XIII.	86
pyrenella, *Conrad*	XL.	303
Rangii, Deshayes	XXVIII.	191
rarinodosa, *Anth.*	XXXVIII.	268
recta, *Lea*	VIII.	41
Reirvardii, De Haan	II.	6
reticulata, Lea	I.	1
retusa (*Hemimitra*), Swainson	LIX.	170
rhombica, *Anth.*	XLVII.	347
rigida, *Anth.*	XXXVIII.	270
rimata, *Reeve*	XIV.	94
Riquetii, *Grat.*	XXIV.	173
rorata, *Reeve*	XLII.	306
rubicunda, *Reeve*	XXXI.	206
rudens, *Reeve*	XXXIII.	224
rudis, *Lea*	XXIV.	172
rufescens, *Lea*	XXXIX.	279
rustica, *Mousson*	IV.	21
rusticola, Busch	XVIII.	127
Saffordii, *Lea*	XLVIII.	365
Sallei, *Reeve*	XIX.	133
Samoensis, *Reeve*	XI.	60
scabra, *Féruss.*	XXVI.	183
scabrella, *Anth.*	LI.	388
scopulus, *Reeve*	XXII.	155
Schiedeana, *Phil.*	XV.	101
Schomburgki, *Hanl.*	XIV.	93
sculptilis, *Reeve*	XXI.	151
sculpta, Souleyet	XXIV.	173
semicancellata, *Busch*	VIII.	37
semicarinata, *Say*	XLIX.	368
semigranosa, *Busch.*	XXIV.	167
semigradata, *Reeve*	LIX.	472
semiplicata, Féruss	XXIX.	195
setosa, *Swainson*	XXVII.	185
Shastaensis, Lea	XLIV.	318
Showalteri (*Lithasia*), Lea	LIV.	421
siccata, *Busch*	XXXIV.	230
simplex, *Say*	XXI.	148
Sinensis, *Reeve*	XII.	70
siphonata, *Reeve*	XX.	143
sobria, *Lea*	VII.	32
solida, *Lea*	LVII.	154
solida (Lithasia), Lea	LIV.	420
Sooloensis, *Reeve*	VI.	31
sordida, *Lea*	LVII.	149
spadicea, *Reeve*	XIX.	132

	Plate.	Species.
sparsinodosa, *Busch.*	XXXI.	208
speciosa, *Adams*	XXVII.	184
spinulosa, *Lamarck*	XXII.	156
spurca, *Lea*	XLVI.	340
striatula, *Lea*	LIX.	466
strigosa, *Lea*	XLIV.	320
strobilus, *Reeve*	XXXII.	214
stygia, *Say*	LII.	400
subangulata, *Anth.*	XXXVI.	242
subcarinata, Anth.	XL.	282
subcylindracea, *Lea*	LII.	399
subimbricata, *Phil.*	XXX.	199
sublirata, *Conrad*	XLVI.	339
subsolida, *Lea*	XLI.	299
subsuturalis, Metc.	XXXII.	212
subula, *Lea*	XI.	62
subularis, *Lea*	LIV.	428
sugillata, *Reeve*	XLIV.	319
symmetrica, *Hald.*	XLV.	328
tæniolata, *Anth.*	LI.	392
Taitiana, *Lea*	LVI.	444
Tamsii, *Dunker*	XV.	106
tecta, *Anth.*	XXXVII.	253
tenebrocincta, *Anth.*	XXXVIII.	271
tenebrosa, *Lea*	LVI.	443
tenera, *Anth.*	LIII.	407
terebra, *Benson*	XI.	59
terebra, Busch	IX.	46
testudinaria, *Busch*	XXI.	154
tessellata, Lea	XXIV.	172
textilosa, *Anth.*	LI.	391
thiarella, Lamarck	XXV.	175
Timorensis, *Reeve*	XIII.	79
Tirouri, Féruss.	V.	26
Tornatella, Lea	XXIV.	173
torquata, Busch	XI.	59
torta, *Lea*	L.	377
torulosa, *Anth.*	XLIX.	370
tracta, *Anth.*	LV.	429
transversa, *Reeve*	XXIX.	196
tripartita, *Reeve*	XLVIII.	364
tristis, *Reeve*	XVII.	121
trivittata, *Reeve*	LIV.	420
Troostiana, *Lea*	XLV.	329
truncata, Lamarck	XXIX.	195
tuberculata, *Müller*	XIII.	87
tuberculata, Lea	LIV.	422
tuberculosa, *Rang*	XXVIII.	191
turriculus, Lea	XVI.	113
tympanotus, Desh.	XXVIII.	190

	Plate.	Species.
uncialis, *Hald.*	LV.	435
undosa, *Anth.*	LVII.	447
undulata, Say	XLII.	307
uniformis, *Quoy*	XIV.	95
unisulcata, *Reeve*	IX.	44
valida, *Anth.*	XLIII.	317
Vanuxemiana, *Lea*	LVII.	452
variabilis, *Benson*	XXXI.	204
varicosa, Troschel	III.	10
varicosa, Ward	LV.	436
Venezuelensis, *Dunk.*	XIII.	81
venusta, *Lea*	XLIII.	315
verrucosa, *Hinds*	XXIV.	168
versipellis, *Anth.*	LVI.	436
vestita, *Conrad*	XLIV.	322
vicina, *Anth.*	XLI.	291
Virginica (*Bucc.*), Gmelin	XLIV.	321
virgulata, *Féruss.*	XVI.	109
viridula, *Anth.*	XXXVI.	243
vittata, *Anth.*	XXXVIII.	262
undulata, *Say*	XLII.	307
Wallacei, *Reeve*	XI.	66
Warderiana, *Lea*	XLVII.	353
Winteri, *Busch.*	XXII.	157
zonata, *Benson*	XXXII.	217

ERRATA.

Pl. III. Sp. 9. *M. ferrea*, Reeve—add as synonym *M. bicolor*, Brot (not of Anthony).

Pl. V. Sp. 26. *M. crenulata*, Chemn.—add as synonyms *M. porcata*, Jonas, and *M. confusa*, Dohrn.

Pl. VI. Sp. 31. For *M. canaliculata*, Reeve—read *M. Sooloensis*, Reeve, the name being already used by Say.

Pl. VII. Sp. 34. *M. Mindoriensis*, Lea—add as synonyms *M. obscura*, Brot, and *M. litigiosa*, Brot.

Pl. VII. Sp. 35. *M. cincta*, Lea—add as synonym *M. albo-vittata*, Brot.

Pl. IX. Sp. 46. The shell here figured under the name of *M. terebra*, Busch (not of Benson), has very much the appearance of being a smooth state of *M. costata*, Quoy, which is Mr. Lea's *M. hastula*.

Pl. IX. Sp. 48. For *M. acuta*, Lea (for which species see Pl. XXXIV. Sp. 274)—read *T. Arroensis*, Reeve.

Pl. XIII. Sp. 85. For *M. incisa*, Reeve—read *M. biflammata*, Reeve, described at Pl. XVII. Sp. 124.

Pl. XIII. Sp. 87. *M. tuberculata*, Müller—add as synonym *M. punctulata*, Grateloup.

Pl. XIV. Sp. 90. For *M. scarabus*, Reeve—read *M. nigrita*, Poey.

Pl. XIV. Sp. 94. For *M. unisulcata*, Reeve (already used for Sp. 44)—read *M. rimata*, Reeve.

Pl. XVIII. Sp. 127. *M. Largillierti*, Philippi—add as synonym *M. rusticola*, Busch.

Pl. XXI. Sp. 153. For *M. pallidula*, Reeve—read *M. pallens*, Reeve.

Pl. XXII. Sp. 160. *M. Broti*, Dohrn—add as synonym *M. chocolatum*, Brot.

Pl. XXIV. Sp. 170. For *M. lyrata*, Menke—read *M. lirata*, Benson, and add as synonym *M. lineata*, Troschel.

Pl. XXIV. Sp. 172. *M. rudis*, Lea—add as synonyms *M. tessellata*, Lea, and *M. microstoma*, Lea.

Pl. XXIV. Sp. 173. For *M. Tornatella*, Lea—read *M. Riquetii*, Grateloup, Trans. Linn. Soc. Bordeaux, vol. xi. pl. 5. f. 28; and add as synonyms *M. Tornatella*, Lea, *M. nana*, Lea, *M. harpula*, Dunker, and *M. sculpta*, Souleyet.

Pl. XXVI. Sp. 181. *M. orientalis*, Adams—add as synonym *M. hippocastanum*, Brot.

Pl. XXVIII. Sp. 191. *M. tuberculosa*—add as synonyms *M. Rangii*, Desh., and *M. Byronensis*, nonnul.

Pl. XXIX. Sp. 193. For *M. Branca*, Reeve—read *M. aquatilis*, Reeve, described at Pl. XII. Sp. 73.

Pl. XXX. Sp. 200. *M. fusca*, Gmelin—add as synonym *M. Matoni*, Gray.

Pl. XXX. Sp. 201. For *M. scarabus*, Reeve—read *M. circumsulcata*, Busch, Malak. Blitter, 1858, p. 16.

Pl. XXXII. Sp. 213. *M. datura*, Dohrn. For the "given" Melania—read the Thorn-Apple Melania.

Pl. XXXIX. Sp. 275 and 279. Mr. Anthony informs me that the shells here described and figured for *M. proxima*, Say, and *M. rufescens*, Lea, from specimens so labelled in Mr. Cuming's collection, are not the true species.

Pl. XL. Sp. 282. For *M. subcarinata* Anth.—read *M. hybrida*, Anth., and add *M. subcarinata*, Anth. (not of Gray), as synonym.

Pl. XL. Sp. 290. For *M. picta*, Lea (not of Hinds)—read *M. picturata*, Reeve.

Pl. XLIII. Sp. 309. The shell here described and figured is a variety of Sp. 448, *M. ovalis*, Lea. For the true *M. olivula*, Conrad, see Pl. LVII. Sp. 455.

Pl. XLIII. Sp. 311. *M. cylindracea*, Conrad—add as synonym *M. oppugnata*, Lea.

Pl. XLVIII. Sp. 359. For *M. angusta*, Anth.—read *M. angustispira*, Anth.

Pl. XLIX. Sp. 367. For *M. nigrina*, Lea—read *M. nigrostoma*, Anth.

Pl. LIX. Sp. 470. For *M. retusa*, Swain.—read *M. Stephanus*, Benson, Journ. Asiat. Soc. Calcutta, vol. v. p. 747, and add as synonyms *Melania coronata*, Busch, and *Paludomus Stephanus*, Reeve.

Erratum in *genus* Anculotus.

Anculotus nuperus, Say, is described and figured for *Anculotus lima*, Conrad, and *vice versâ*.

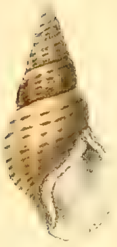
MONOGRAPH

OF THE GENUS

HEMISINUS.

"As a stranger give it welcome."
Shakspeare

Hemisinus Pl. I.



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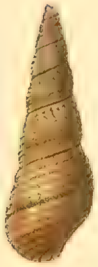

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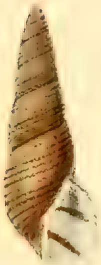

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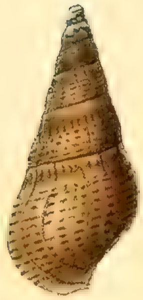

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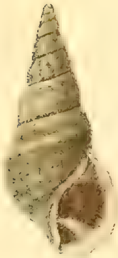

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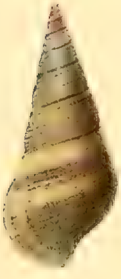

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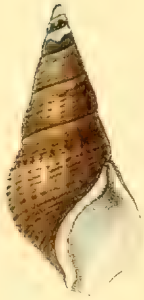

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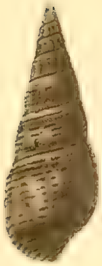

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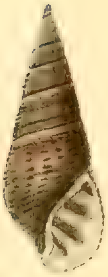

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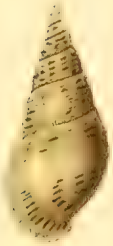

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Sowerby, del. et lith.

Vincent Brooks, Imp.

HEMISINUS.

Plate I.

Genus HEMISINUS, *Swainson.*

Testa nunc globosa nunc elongata, plerumque solidiuscula, olivacea, sæpè spiraliter rufo-punctata, anfractibus vel lævibus vel liratis. Apertura ad basin emarginata, columella plus minus calloso-contorta et truncata.

Shell sometimes globose, sometimes elongated, generally rather solid, olive, often spirally red-dotted, whorls smooth or ridged. Aperture notched at the base, columella more or less callously twisted and truncated.

It is chiefly to the assiduity of Professor Behn, of Kiel, during the voyage of the Danish man-of-war 'Galatea,' that we are indebted for the discovery of an assemblage of *Melaniadæ*, presenting a speciality of character which had been indicated by Mr. Swainson some years ago in a single odd species. In searching about the district of Pernambuco, among the tributaries of the Amazon, he found the *Melaniadæ* to be all more or less distinguished by a notched base and callously twisted columella; and we have availed ourselves of the specimens communicated by him to Mr. Cuming, to raise the genus *Hemisinus* to a rank of more importance in the family.

Of the twenty-six species comprised in this genus, a few have been described, by Lea, Moricand, Gray, and Poey, as *Melaniæ*, but more than half of them are new.

All the *Hemisini* are from Brazil or Venezuela, excepting a few species partaking little of the typical characteristics of the genus. Two small species inhabiting the Seychelle Islands come into the group and three from Illyria, Java, and Borneo.

Species 1. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus punctatus. *Hem. testâ ovato-turbinatâ, subventricosâ, luteo-olivaceâ, rufo sparsim transversè punctatâ, anfractibus septem ad octo, lævibus, spiraliter lineari-sulcatis, sulcis medianis plus minus obsoletis; aperturâ ovatâ, columellâ calloso-excavatâ et contortâ.*

The dotted Hemisinus. Shell ovately turbinated, somewhat ventricose, yellowish-olive, sparsely transversely dotted with red, whorls seven to eight, smooth, spirally linearly grooved, middle grooves more or less obsolete; aperture ovate, columella callously excavated and twisted.

Hab. Pernambuco.

A rather ventricose shell, covered with a shining, obsoletely-grooved, yellowish-olive epidermis, and sprinkled promiscuously at rather distant intervals with transversely-dashed red dots.

Species 2. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus bicinctus. *Hem. testâ turriculatâ, solidiusculâ, olivaceâ, fasciis duabus castaneis angustis distantibus cingulatâ, anfractibus octo, supernè concavo-declivibus, deinde convexo-planis, liris spiraliter undique funiculatis, interstitiis excavatis; aperturâ parviusculâ, labro supernè sinuato, columellâ rigidè curvatâ.*

The two-banded Hemisinus. Shell turriculated, rather solid, olive, encircled with two narrow, distant chestnut bands, whorls eight, concavely sloping round the upper part, then convexly flattened, spirally corded throughout with ridges, the interstices between which are excavated; aperture rather small, lip sinuated at the upper part, columella rigidly curved.

Hab. Brazil.

It is somewhat doubtful whether this is distinct from *H. Brasiliensis*, represented at Fig. 5 *a*, *b*. It is of rather solid growth, very regularly corded throughout, and encircled with two characteristic chestnut bands, little seen externally through the epidermis, but plainly shown in the interior.

Species 3. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus Buccinoides. *Hem. testâ fusiformi-turbinatâ, versus basin ventricosâ, luteo-fuscâ, rufo spiraliter interruptè lineatâ, anfractibus septem ad octo, lævibus, supernè declivi-impressis, ultimo medio gibboso; aperturâ ovatâ, columellâ supernè callosâ, infernè calloso-contortâ.*

The Buccinum-like Hemisinus. Shell fusiformly turbinated, ventricose towards the base, yellowish-brown, whorls seven to eight, smooth, slopingly impressed round the upper part, last whorl gibbous round the middle; aperture ovate, columella callous at the upper part, callously twisted below.

Hab. Jamaica?

January, 1860.

The bulging out of the last whorl of this species gives it a *Buccinum*-like outline, while the columella is more callous and twisted than usual. It is interruptedly filleted throughout with unevenly faint reddish lines.

Species 4. (Fig. *a*, Mus. V. d. Busch. Fig. *b*, Mus. Cuming.)

Hemisinus lineolatus. *Hem. testâ subulato-turbinatâ, solidiusculâ, luteo-olivaceâ, cinereo-cœruleo latifasciatâ, lineis rufipunctatis undique cingulatâ, anfractibus octo, plano-convexis, ultimo gibboso-rotundato; aperturâ ovatâ, fauce rufo-castaneâ, columellâ calloso-arcuatâ.*

The finely-lineated Hemisinus. Shell subulately turbinated, rather solid, yellowish-olive, broadly banded with ash-blue, and encircled throughout with red-dotted lines, whorls eight, flatly convex, the last gibbously rounded; aperture ovate, reddish-chestnut within, columella callously arched.

Melania lineolata, Gray, Griffith's Cuvier's Anim. King. pl. 13. f. 4.

Hab. Venezuela.

Closely typically allied to the preceding species, though of very different specific character. It has the same encircling painting of red-dotted lines.

Species 5. (Fig. *a*, *b*, Mus. Cuming.)

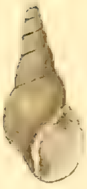
Hemisinus Brasiliensis. *Hem. testâ turriculatâ, solidiusculâ, olivaceâ, fasciis tribus castaneis punctisque rufis linearibus transversis cingulatâ, anfractibus octo, undique confertim spiraliter lineari-sulcatis; aperturâ subangustè ovatâ, columellâ rigidè arcuatâ.*

The Brazilian Hemisinus. Shell turriculated, rather solid, olive, encircled with three chestnut bands, and with transverse, linear, red dots, whorls eight, closely spirally linearly grooved throughout; aperture rather narrowly ovate, columella rigidly arched.

Melanopsis Brasiliensis, Moricand, Mém. Soc. Hist. Nat. de Genève, vol. vii. p. 38. pl. 3. f. 12, 13.

Hab. Brazil.

Rather solid and erect, grooved and banded throughout, and freely encircled with the transverse red dots which are typical of most of the species of the locality.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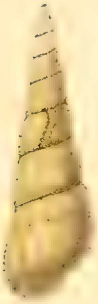
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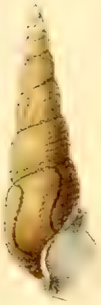
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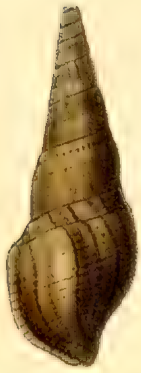
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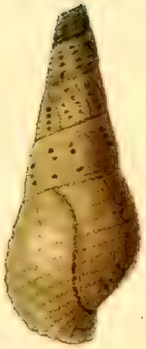
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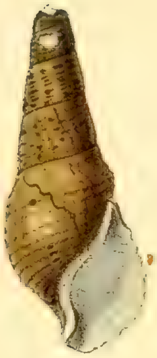
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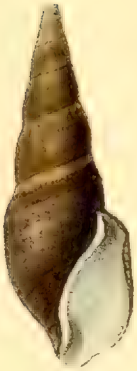
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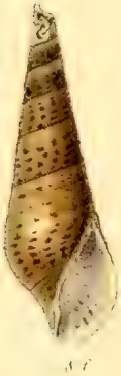
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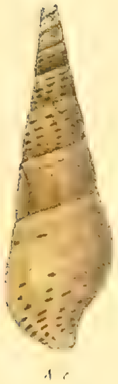
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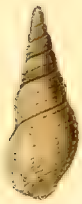
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HEMISINUS.

Plate II.

Species 6. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus tenellus. *Hem. testâ subulato-turbinatâ, tenuiculâ, olivaceo-luteâ, anfractibus octo, convexis, undique lineari-sulcatis; aperturâ ovatâ, columellâ tenuè calloso-contortâ.*

The delicate hemisinus. Shell subulately turbinated, rather thin, olive-yellow, whorls eight, convex, linearly grooved throughout; aperture ovate, columella thinly callously twisted.

Hab. Pernambuco.

A shell of slight substance, finely linearly grooved throughout, with the appearance of being scarcely mature.

Species 7. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus Edwardsii. *Hem. testâ angustè turriculatâ, olivaceo-luteâ, anfractibus novem ad octo, supernè obtusè angulatis, deinde planatis, liris confertis undique funiculatis, suturis subcanaliculatis; aperturâ parvâ, subquadrato-ovatâ, labro supernè conspicuè sinuato et emarginato, columellâ incurvâ, basi subtruncatâ.*

Edwards's Hemisinus. Shell narrowly turriculated, olive-yellow, whorls nine to ten, obtusely angled round the upper part, then flattened, corded with close-set ridges throughout, sutures slightly channelled; aperture small, somewhat squarely ovate, lip conspicuously sinuated and notched at the upper part, columella incurved, slightly truncated at the base.

Basistoma Edwardsii, Lea, Obs. vol. v. p. 52. pl. 30. f. 1.

Hab. Pernambuco.

This is the species of which an uncoloured copy of Mr. Lea's figure was given at Fig. 8, in the second Plate of *Pirena*, under an impression that it belonged to the *Melanatria* division of the *Melaniadæ*. Its place is clearly with *Hemisinus*. There are several fine specimens in the collection of the British Museum.

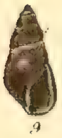
Species 8. (Fig. *a* to *f*, Mus. Cuming.)

Hemisinus Behnii. *Hem. testâ elongato-turritâ, solidiusculâ, luteo-olivaceâ, interdum tenebrosâ, punctis rufis linearibus aspersâ, anfractibus octo ad decem, declivi-planatis, lævibus, versus aperturam spiraliter sulcatis, ultimo interdum supernè concavo-angulato; aperturâ subangustè ovatâ, columellâ calloso-contortâ.*

Behn's Hemisinus. Shell elongately turreted, rather solid, yellowish-olive, sometimes darker, sprinkled with linear red dots, whorls eight to ten, slopingly flattened, smooth, spirally grooved towards the aperture, last whorl sometimes concavely angled round the upper part; aperture rather narrowly ovate, columella callously twisted.

Hab. Pernambuco.

The specimens figured of this interesting species were collected by Professor Behn, of Kiel, together with most of the *Hemisini* figured in this Monograph, during the voyage of the Danish man-of-war 'Galatea;' and I have great pleasure in naming it after him.



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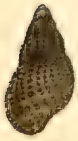

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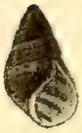

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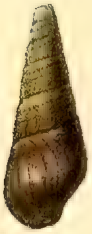

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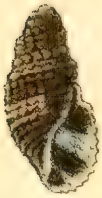

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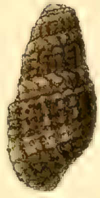

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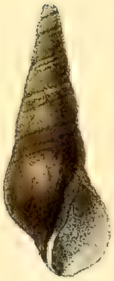

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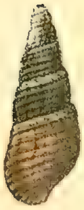

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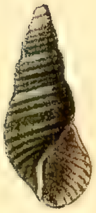

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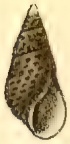

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Sowerby, del et lith

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HEMISINUS.

PLATE III.

Species 9. (Mus. Cuming.)

HEMISINUS DERMESTOIDEA. *Hem. testâ oblongo-cylindraceâ, lævigatâ, tenebroso-castaneâ, ad suturas luteolâ anfractibus sex, plano-convexis; aperturâ ovatâ, columellâ arcuato-contortâ.*

THE DERMESTES-LIKE HEMISINUS. Shell oblong cylindrical, smooth, dark-chestnut, yellowish at the sutures, whorls six, flatly convex; aperture ovate, columella arcuately twisted.

Melania dermestoidea, Lea, Pro. Zool. Soc. 1850, p. 181.

Hab. Seychelle Islands.

Mr. Lea observes of this little cylindrical species, "the most marked character is the notched channel of the base." It is this which gives it a claim to a place in the genus *Hemisinus*.

Species 10. (Fig. *a*, *b*, Mus. Cuming.)

HEMISINUS ASPERSUS. *Hem. testâ ovatâ, subventricosâ, semipellucido-olivaceâ, castaneo trifasciatâ, punctis rufis linearibus undique tæniatâ, anfractibus quinque, obsoletè sulco-striatis, ultimo subinflato; aperturâ ovatâ, vix canaliculatâ.*

THE SPRINKLED HEMISINUS. Shell ovate, slightly ventricose, semi-transparent, olive, encircled with three chestnut bands, filleted throughout with linear red dots, whorls five, obsoletely groove-striated, the last somewhat inflated; aperture ovate, scarcely channelled.

Hab. Brazil.

This little species possesses the generic basal channelling of *Hemisinus*, but only in a very slight degree.

Species 11. (Fig. *a*, Mus. Cuming, Fig. *b*, Mus. V. d. Busch.)

HEMISINUS STRIGILATUS. *Hem. testâ elongato-turritâ, tenebroso-olivaceâ, anfractibus octo ad decem, declivi-planatis, lævibus, obscurè crispato-striatis, ultimo convexo; aperturâ lunari-ovatâ, ad basin truncatâ, columellâ tenuè contortâ.*

THE CHANNELLED HEMISINUS. Shell elongately turreted, dark-olive, whorls eight to ten, slopingly flattened, smooth, obscurely crisp-striated, last whorl convex; aperture lunar-ovate, truncated at the base, columella thinly twisted.

Melania strigilata, Dunker, Philippi, Abbild. und Besch. Conch. pl. 2. f. 14.

Hab. Brazil.

The aperture is more than usually truncated at the base, and the columella is peculiar in not showing any callous contortion except at the basal extremity.

Species 12. (Fig. *a*, *b*, Mus. Cuming.)

HEMISINUS OLIVACEUS. *Hem. testâ ovato-turriculatâ, subobtusâ, solidâ, luteo-olivaceâ, fasciis duabus latis tenebroso-castaneis cingulatâ, anfractibus paucis, subplanulatis, undique rudè tuberculato-granatis; aperturâ angustè ovatâ, columellâ tenuè contortâ.*

THE OLIVE HEMISINUS. Shell ovately turriculated, rather obtuse, solid, yellowish-olive, encircled with two broad dark-chestnut bands, whorls few, somewhat flattened, rudely tubercularly grained throughout; aperture narrowly ovate, columella thinly twisted.

BEHN, MS. in Mus. Cuming.

Hab. Pernambuco.

The only species of the genus which has so rough an armature of tubercular grains.

Species 13. (Fig. *a*, *b*, Mus. Cuming.)

HEMISINUS RUGINOSA. *Hem. testâ turriculatâ, cinereo-olivaceâ, semipellucidâ, liris purpureo-fuscis opacis undique cingulatâ, anfractibus septem ad octo, convexis; aperturâ ovatâ, columellâ tenuè reflexâ.*

THE WRINKLED HEMISINUS. Shell turriculated, ash-olive, semi-transparent, encircled throughout with opaque purple-brown ridges, whorls seven to eight, convex; aperture ovate, columella thinly reflected.

BEHN, MS. in Mus. Cuming.

Hab. Brazil.

In this species the transverse red colouring is not in dots, but in decided ridges, giving the shell an appearance of being encircled with rings.

Species 14. (Mus. V. d. Busch.)

HEMISINUS ESPERI. *Hem. testâ ovato-conicâ, fuscescente,*

January, 1860.

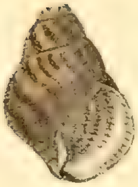
punctis rufis tessellato-aspersâ, anfractibus sex, lævibus, declivi-convexis, ultimo obliquè subventricosâ; aperturâ oblongo-ovatâ, columellâ tenuè reflexâ, rufo-purpureâ.

ESPER'S HEMISINUS. Shell ovately conical, light-brown, tessellately sprinkled with red dots, whorls six, smooth, slopingly convex, the last obliquely subventricose; aperture oblong-ovate, columella thinly reflected, reddish-purple.

Melanopsis Esperi, Férussac, Mém. Soc. d'Hist. Nat. Paris, vol. i. p. 160. n. 10.

Hab. Laybach, Illyria.

The red dots which characterize this little European species, after the same manner as the Brazilian *Hemisini*, are not often so apparent as in the specimen figured.



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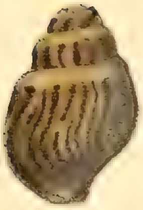

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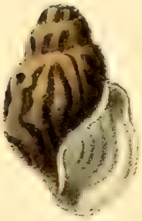

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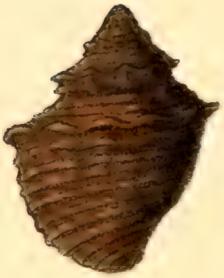

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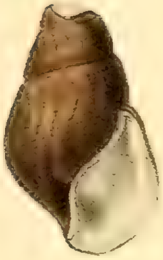

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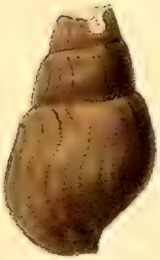

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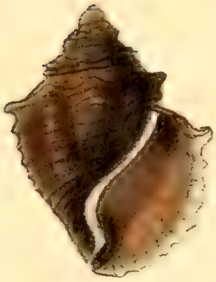

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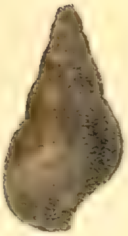

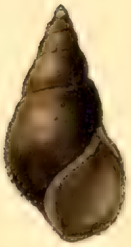

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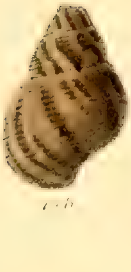


15 b

HEMISINUS.

Plate IV.

Species 15. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus pulcher. *Hem. testâ globoso-turbinatâ, ustulato-olivaceâ, subpellucidâ, nigro obliquè strigatâ, anfractibus paucis, undique confertim spiraliter liratis, supernè marginatis, suturis angustè canaliculatis, anfractu ultimo ventricoso; aperturâ latè ovatâ, columellâ latè calloso-contortâ.*

The beautiful Hemisinus. Shell globosely turbinated, brownish-olive, somewhat transparent, obliquely streaked with black, whorls few, closely spirally ridged throughout, margin at the upper part with the sutures narrowly channelled, last whorl ventricose; aperture broadly ovate, columella broadly callously twisted.

Hab. Pernambuco.

A bright-coloured, swarthy, yellowish-olive shell, obliquely streaked with black, but chiefly characterized by its elegant, shortly turbinated convolution, and close spirally ridged sculpture.

Fig. 16. (Fig. 16 *a*, *b*, Mus. Cuming.)

Hemisinus creno-carina. *Hem. testâ globoso-conoideâ, solidâ, nigrescente-castaneâ, anfractibus quinque, longitudinaliter plicato-undatis, ultimo ventricoso-inflato, supernè latè angulatis, undique spiraliter liratis, lirâ ad angulum creno-carinatâ; aperturâ subquadrato-oblongâ, amplâ, fauce fuscâ, columellâ calloso-contortâ.*

The crenated-keel Hemisinus. Shell globosely conoid, solid, blackish-chestnut, whorls five, longitudinally plicately waved, the last ventricosely inflated, broadly angled at the upper part, spirally ridged throughout, ridge on the angle crenately keeled; aperture somewhat squarely oblong, large, fuscous in the interior, columella callously twisted.

Melanopsis creno-carina, Moricand, Mém. Soc. d'Hist. Nat. Genève, vol. ix. p. 61.
Melania cingulata, Jonas.
Melania creno-carina, Philippi.

Hab. Brazil.

This very striking globosely turbinated species differs remarkably in general aspect from any other species of the genus.

Species 17. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus obesus. *Hem. testâ ovato-turbinatâ, obesâ, solidâ, ustulato-brunneâ, immaculatâ, anfractibus paucis, rotundatis, obsoletè spiraliter liratis, suturis canaliculatis; aperturâ oblongo-ovatâ, columellâ calloso-contortâ.*

The stout Hemisinus. Shell ovately turbinated, stout, solid, burnt brown, unspotted, whorls few, rounded obsoletely spirally ridged, sutures channelled; aperture oblong-ovate, columella callously twisted.

Hab. Brazil.

A shell of stout solid growth covered with a rich swarthy epidermis, only very obsoletely ridged, and devoid of any marking.

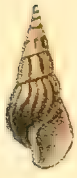
Species 18. (Fig. 15, *c*, *d*, Mus. Cuming.)

Hemisinus zebra. *Hem. testâ subgloboso-ovatâ, solidiusculâ, obesâ, ustulato-luteâ, castaneo-nigro conspicuè longitudinaliter strigatâ, anfractibus paucis, lævigatis, supernè obtusè angulatis, deinde plano-convexis, ultimo ad basin sulcato; aperturâ oblongo-ovatâ, labro supernè sinuato, columellâ calloso-contortâ.*

The zebra Hemisinus. Shell subglobosely ovate, rather solid, stout, swarthy yellow, conspicuously longitudinally striped with chestnut-black, whorls few, smooth, obtusely angled round the upper part, then flatly convex, last whorl grooved at the base; aperture oblong-ovate, lip sinuated at the upper part, columella callously twisted.

Hab. Brazil.

The species here described is the very characteristic zebra-striped shell represented at Fig. 15 *c*, *d*, which it will be seen is quite distinct from that at Fig. 15 *a*, *b*. The shell represented at Fig. 18 *a*, *b*, proves not to be a *Hemisinus*, but a specimen of *Melania siphonata* described at Plate XX. Fig. 143.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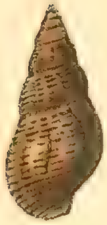
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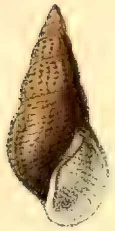
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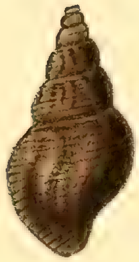
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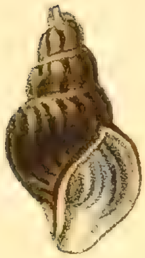
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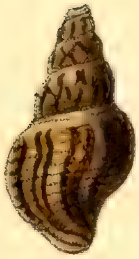
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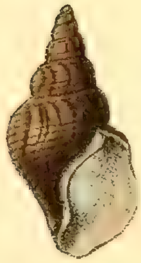
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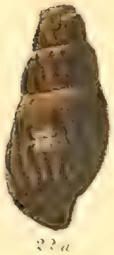
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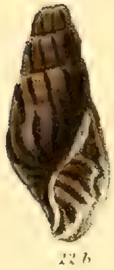
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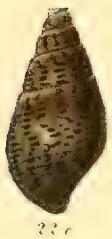

22 c

HEMISINUS.

PLATE V.

Species 19. (Mus. Cuming.)

HEMISINUS CONTRACTUS. *Hem. testâ subulatâ, tenuiculâ, pallidè olivaceâ, anfractibus novem, lævibus, declivi-planatis, ultimo rotundato; aperturâ parvâ, columellâ tenuè calloso-contortâ.*

THE CONTRACTED HEMISINUS. Shell subulate, rather thin, pale-olive, whorls nine, smooth, slopingly flattened, last whorl rounded; aperture small, columella thinly callously twisted.

Melania contracta, Lea, Pro. Zool. Soc. 1850, p. 182.

Hab. Seychelle Islands.

The columella in this little Seychelle Island species, like *H. dermestoidea* from the same locality, has quite the twisted columella and notched channel of the larger Brazilian species.

Species 20. (Fig. *a*, *b*, Mus. Cuming.)

HEMISINUS ORNATUS. *Hem. testâ subfusiformi-turbinatâ, luteo-fuscâ, lineis rufis punctato-interruptis undique cinctâ, anfractibus septem, lævibus, convexiusculis, ultimo subventricoso; aperturâ ovatâ, columellâ calloso-reflexâ.*

THE ORNATE HEMISINUS. Shell subfusiformly turbinated, yellowish-brown, spirally encircled throughout with dot-interrupted red lines, whorls seven, smooth, slightly convex, the last somewhat ventricose; aperture ovate, columella callously reflected.

Melania ornata, Poey, Moll. Cuba.

Hab. Brazil.

The columellar extremity of this species presents a link intermediate between this genus and *Melania*, being scarcely sufficiently twisted to leave a notch.

Species 21. (Fig. 21 *a*, *b*, *c*, *d*, Mus. Cuming.)

HEMISINUS KOCHII. *Hem. testâ fusiformi-turbinatâ, ad basin productâ et recurvâ, olivaceâ, fusco plus minus tinctâ vel strigatâ et punctis rufis aspersâ, spirâ productâ, anfractibus septem ad octo, spiraliter lineari-sulcatis, supernè rotundato-gibbosis, infernè contractis, suturis latè canaliculatis; aperturâ ovatâ, columellâ calloso-contortâ.*

KOCH'S HEMISINUS. Shell fusiformly turbinated, produced and recurved at the base, olive, more or less stained and striped with brown, and sprinkled with red dots, spire produced, whorls seven to eight, spirally linearly grooved, rotundately gibbous round the upper part, contracted at the lower, sutures broadly channelled; aperture ovate, columella callously twisted,

Melania Kochii, Bernardi, Journ. Conch. vol. v. p. 83. pl. 3. f. 6.

Hab. Brazil.

Distinguished by a peculiar gibbously fusiform growth, with the extremity produced and slightly reflected. The colouring, it will be seen by the two specimens figured, varies in being either striped with brown upon a yellowish-olive ground, or uniformly stained.

Species 22. (Fig. *a*, *b*, Mus. Cuming.)

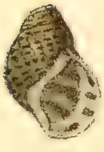
HEMISINUS TENUILABRIS. *Hem. testâ fusiformi-oblongâ, ustulato-olivaceâ, nigrò longitudinaliter strigatâ, anfractibus paucis, lævigatis, declivi-planatis, ultimo ad basin contracto et spiraliter sulcato; aperturâ angustè oblongo-ovatâ, columellâ tenuè calloso-contortâ.*

THE THIN-LIP HEMISINUS. Shell fusiformly oblong, swarthy-olive, longitudinally striped with black, whorls few, smooth, slopingly flattened, last whorl contracted and spirally grooved at the base; aperture narrowly oblong-ovate, columella thinly callously twisted.

BEHN, MS. in Mus. Cuming.

Hab. Brazil.

A richly-coloured dark-striped shell, readily distinguishable by its narrow fusiformly oblong growth.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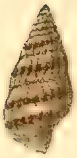
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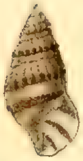
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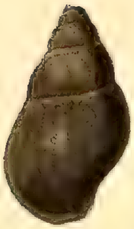
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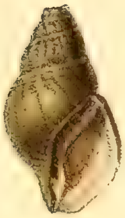
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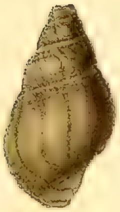
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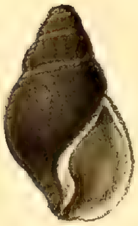
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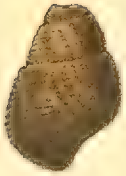
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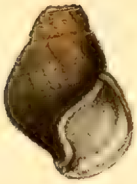
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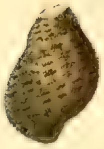

23 b

HEMISINUS.

Plate VI.

Species 23. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus Guayaquilensis. *Hem. testâ abbreviato-ovatâ, tenebroso-olivaceâ, nigro transversè maculatâ, anfractibus perpaucis, lævibus, declivi-convexis, ultimo obliquè ventricoso; aperturâ ovatâ, subamplâ, columellâ latè calloso-arcuatâ.*

The Guayaquil Hemisinus. Shell shortly ovate, dark-olive, transversely spotted with black, whorls very few, smooth, slopingly convex, the last obliquely ventricose; aperture ovate, rather large, columella broadly callously arched.

Melania Guayaquilensis, Petit, Journ. Conch. vol. iv. p. 157. pl. 5. f. 6.

Hab. Guayaquil.

A short, broadly-ovate shell, with a rather open aperture, of a dark-olive colour, marked with numerous transverse black spots.

Species 24. (Fig. *a*, *b*, Mus. V. d. Busch.)

Hemisinus Helena. *Hem. testâ ovatâ, utrinque attenuatâ, luteo-viridi, fasciis duabus castaneis cingulatâ, anfractibus quinque ad sex, convexis, concentricè tenuicostatis, costis versus aperturam evanidis, suturis angustè impressis; aperturâ oblongo-ovatâ, columellâ tenuè reflexâ.*

The Helena Hemisinus. Shell ovate, attenuated at each end, yellowish-green, encircled with two chestnut bands, whorls five to six, convex, concentrically finely ribbed, ribs fading towards the aperture, sutures narrowly impressed; aperture oblong-ovate, columella thinly reflected.

Melanopsis Helena, Meder, Philippi, Abbild. und Besch. Conch. vol. ii. p. 170. pl. 4. f. 4.

Hab. Java.

A neatly sculptured species, with a somewhat marine aspect, very distinct in typical character from the rest of the genus.

Species 25. (Fig. *a* to *d*, Mus. Cuming.)

Hemisinus nigricans. *Hem. testâ ovatâ, crassâ, olivaceâ vel nigricante, anfractibus quinque ad sex, convexis, sub lente malleatis et minutè crispato-striatis; aperturâ oblongo-ovatâ, ad basin profundè emarginatâ, columellâ latè incurvâ, nigrâ, ad basin calloso-contortâ et truncatâ.*

The black Hemisinus. Shell ovate, thick, olive or blackish, whorls five to six, convex, beneath the lens malleated and minutely crisply striated; aperture oblong-ovate, deeply notched at the base, columella broadly incurved, black, callously twisted and truncated at the base.

Clea nigricans, Adams, Pro. Zool. Soc. 1855, p. 119.

Hab. Sarawak, Borneo.

A stout open-mouthed shell, in which the generic characters of *Hemisinus* are exaggerated into an abnormal form, which the Messrs. Adams have considered sufficient to characterize as a separate genus.

Species 26. (Fig. *a*, *b*, Mus. Cuming.)

Hemisinus globosus. *Hem. testâ globosâ, solidâ, fusco-nigricante, anfractibus perpaucis, declivi-rotundatis, undique densè sulcato-striatis; aperturâ latè ovatâ, columellâ excavatâ et calloso-contortâ.*

The globose Hemisinus. Shell globose, solid, brown-black, whorls very few, slopingly rounded, closely groove-striated throughout; aperture broadly ovate, columella excavated and callously twisted.

Hab. Pernambuco.

A solid, globose shell, of rather stout growth, closely groove-striated throughout, in which the columella is unusually short and excavately callously twisted.

January, 1860.

HEMISINUS.

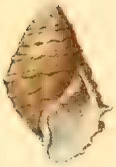
	Plate.	Species.
aspersus, *Reeve*	III.	10
Behnii, *Reeve*	II.	8
bicinctus, *Reeve*	I.	2
Brasiliensis (*Melanopsis*), Moric.	I.	5
Buccinoides, *Reeve*	I.	3
contractus (*Melania*), Lea	V.	19
creno-carina (*Melanop.*), Moric.	IV.	16
dermestoidea (*Melania*), Lea	III.	9
Edwardsii (*Basistoma*), Lea	II.	7
Esperi (*Melanopsis*), Férus	III.	14
globosus, *Reeve*	VI.	26
Guayaquilensis (*Melania*), Petit	VI.	23
Helena (*Melanopsis*), Meder.	VI.	24
Kochii (*Melania*), Bernardi	V.	21
lineolatus (*Melania*), Gray	I.	4
nigricans (*Clea*), Adams	VI.	25
obesus, *Reeve*	IV.	17
olivaceus, *Behn.*	III.	12
ornatus (*Melania*), Poey.	V.	20
pulcher, *Reeve*	IV.	15
punctatus, *Reeve*	I.	1
ruginosus, *Behn.*	III.	13
strigilatus (*Melania*), Dunker	III.	11
tenellus, *Reeve*	II.	6
tenuilabris, *Behn.*	V.	22
zebra, *Reeve*	IV.	18

MONOGRAPH

OF THE GENUS

ANCULOTUS.

"Get you gone, you dwarf.
You minimus, of hind'ring knot-grass made.
You bead, you acorn."—*Shakspeare.*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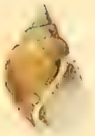
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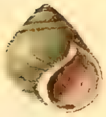
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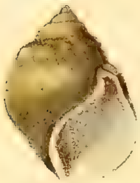
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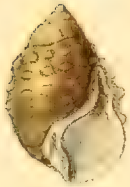
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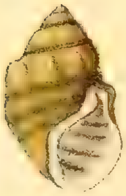
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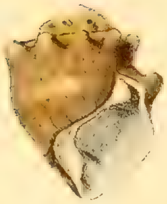
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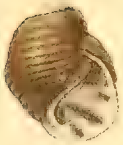
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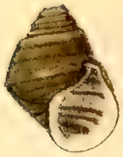
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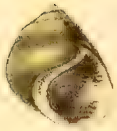
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Sowerby, del. et lith

Vincent Brooks, Imp.

ANCULOTUS.

Plate I.

Genus ANCULOTUS, *Say*.

Testa subglobosa, interdum conico-turbinata, solida, interdum tenuicula, anfractibus paucis, sæpissimè lævigatis, sæpe granatis aut carinatis, columellâ plus minus callosâ, aperturâ oblongo-ovatâ, ad basin plerumque sinuatâ.

Shell rather globose, sometimes conically turbinated, solid, sometimes rather thin, whorls few, mostly smooth, often grained or keeled, columella more or less callous, aperture oblong-ovate, generally sinuated at the base.

The genus *Anculotus* is little better than a receptacle for the dwarf species of *Melaniadæ*, not hitherto separated, as in the case of *Melatoma*, by any very obvious peculiarity. The first twenty-six species of our monograph, forming Plates I. to III., are a very natural group, of solid, globose form, sometimes tubercularly grained, but mostly smooth, in which the base of the aperture is either sinuated, or has, at least, some indication of a sinus. The remainder are of a thinner substance, and partake more of the character of *Paludina;* yet there is still an indication of the sinuated aperture, but it varies, and the species vary much among themselves.

The *Anculoti* are all from the United States, principally Tennessee, Alabama, Ohio, and Virginia.

Species 1. (Mus. V. d. Busch.)

Anculotus nuperus. *Anc. testâ obeso-ovatâ, flavescente-fuscâ, anfractibus declivibus, medio gibbosis, transversim verrucoso-tuberculatis, columellâ basi attenuatâ, aperturâ trapeziformi.*

The new Anculotus. Shell stoutly ovate, yellowish-brown, whorls sloping, gibbous in the middle, transversely wart-tubercled, columella attenuated at the base, aperture diamond-shaped.

Melania nupera, Say, American Conch. pl. 8. f. 1 to 3.
Melanopsis semi-granulosa, Deshayes.
Hab. Ohio, United States.

This shell partakes in a measure of the characters of *Melania* and *Hemisinus* as well as of *Anculotus*. The nodules have a peculiar transversely stretched wart-like appearance.

Species 2. (Mus. Cuming.)

Anculotus consanguineus. *Anc. testâ subgloboso-ovatâ, flavescente-olivaceâ, spirâ brevi, acutè acuminatâ, anfractibus convexis, lævibus, supernè tumidè rotundatis, aperturâ ovatâ, columellâ incurvâ, basi arcuatâ.*

The related Anculotus. Shell somewhat globosely ovate, yellowish-olive, spire short, sharply acuminated, whorls convex, smooth, tumidly rounded at the upper part, aperture ovate, columella incurved, arched at the base.

Melania consanguinea, Anthony, Ann. Lyc. Nat. Hist. New York, 1854, p. 125. pl. 3. f. 26.
Hab. Indiana, United States.

A globosely ovate shell, with a short but sharply acuminated spire, and having very much the appearance of a *Chilina*.

Species 3. (Mus. Cuming.)

Anculotus gibbosus. *Anc. testâ globoso-turbinatâ, rufo-olivaceâ, spirâ parvâ, anfractibus quatuor, ultimo multo majore, declivi-rotundatis, ad suturas minutè plicato-striatis, aperturâ suborbiculari, appressè incurvatâ.*

The gibbous Anculotus. Shell globosely turbinated, rufous-olive, spire small, whorls four, the last much the larger, slopingly rounded, minutely plicately striated at the sutures, aperture nearly orbicular, columella appressly incurved.

Lea, Trans. American Phil. Soc. vol. ix. p. 15.
Hab. Tennessee, United States.

A small obliquely rounded species, resembling a small variety of the common Periwinkle in general aspect.

Species 4. (Mus. Cuming.)

Anculotus Florentianus. *Anc. testâ globoso-ovatâ, solidiusculâ, olivaceâ, obscurè fasciatâ, anfractibus quatuor ad quinque, convexis, lævibus, supernè obtusè angulatis, ad angulum rudè nodatis, aperturâ ovatâ, columellâ appressè attenuatâ.*

The Florentine Anculotus. Shell globosely ovate, rather solid, olive, obscurely banded, whorls four to five, convex, smooth, obtusely angled at the upper part, rudely noduled at the angle, aperture ovate, columella appressly attenuated.

Melania Florentiana, Lea, Trans. American Phil. Soc. vol. viii. pl. 6. f. 53.
Hab. Tennessee River at Florence, Alabama.

Coronated with a rude sculpture of blunt nodules, below which there is sometimes a faint indication of a second row.

Species 5. (Mus. Cuming.)

Anculotus lima. *Anc. testâ globoso-ovatâ, crassâ, subponderosâ, olivaceâ, interdum viridi-fasciatâ, intus purpureo tinctâ, spirâ breviusculâ, anfractibus convexis, medio et supernè seriatim verrucoso-nodulatis, aperturâ ovatâ, utrinque sinuatâ, columellâ contortâ.*

May, 1860.

The file Anculotus. Shell globosely ovate, thick, rather ponderous, olive, sometimes green-banded, purple-stained within, spire rather short, whorls convex, encircled round the middle and upper part with rows of wart-like nodules, aperture ovate, sinuated at both ends, columella twisted.

Melania lima, Conrad, Freshwater Shells, p. 54. pl. 8. f. 8.

Hab. Alabama, United States.

A neat globose wart-noduled species, with a purple-stained aperture, strikingly sinuately effused both above and below.

Species 6. (Mus. Cuming.)

Anculotus salebrosus. *Anc. testâ ovatâ, crassâ, flavescente-olivaceâ, viridi-fasciatâ, anfractibus convexis, supernè rudè angulatis, ad angulum validè irregulariter tuberculatis, aperturâ ovatâ, supra sinuatâ, infra rotundatâ, columellâ calloso-arcuatâ.*

The rugged Anculotus. Shell ovate, thick, yellowish-olive, banded with green, whorls convex, rudely angled at the upper part, strongly irregularly tubercled on the angle, aperture ovate, sinuated above, rounded below, columella callously arched.

Melania salebrosa, Conrad, Freshwater Shells, pl. 4. f. 5.

Hab. Alabama, United States.

Very rudely tubercled and encircled with bright green bands, one of which is conspicuous in the place of the suture.

Species 7. (Mus. Cuming.)

Anculotus geniculatus. *Anc. testâ subquadrato-globosâ, crassâ, ponderosâ, flavescente-olivaceâ, obscurè viridi-fasciatâ, spirâ brevissimâ, anfractibus convexis, supernè latè angulatis, ad angulum peramipliter tuberculatis, columellâ callosâ, excavatâ, appressè attenuatâ, aperturâ ovatâ, ad basin subcanaliculatâ.*

The knotty Anculotus. Shell somewhat squarely globose, thick, ponderous, yellowish-olive, obscurely green-banded, spire very short, whorls convex, broadly angled round the upper part, very largely tubercled at the angle, columella callous, excavated, appressly attenuated, aperture ovate, slightly channelled at the base.

Lithasia geniculata, Haldeman, Mon. Supp. p. 1.

Hab. Tennessee, United States.

A remarkably solidly tubercled shell, canaliculately attenuated at the base.

Species 8. (Mus. Cuming.)

Anculotus Griffithsianus. *Anc. testâ conico-ovatâ, subobtusâ, crassâ, fuscescente-olivaceâ, viridi obscurè maculatâ, columellâ purpureo tinctâ, anfractibus obliquè declivibus, undique validè liratis et sulcatis, aperturâ effusâ, ad basin rotundatâ.*

Griffiths's Anculotus. Shell conically ovate, rather obtuse, thick, brownish-olive, obscurely spotted with green, columella purple-stained, whorls obliquely sloping, strongly ridged and grooved throughout, aperture effused, rounded at the base.

Lea, Proceedings American Phil. Soc. vol. ii. p. 83.
Melania compacta, Anthony.

Hab. Alabama, United States.

Chiefly distinguished by its slopingly oblique growth, strongly ridged and grooved sculpture, and purple-stained columella, behind which there is sometimes a distinct umbilical depression.

Species 9. (Mus. Cuming.)

Anculotus corpulentus. *Anc. testâ ovatâ, fulvo-virente, nitente, olivaceâ, purpureo-fasciatâ, spirâ conicâ, anfractibus obliquè declivibus, lævibus, ad marginem rotundatis, suturis impressis, aperturâ rotundato-ovatâ, obliquè effusâ, supernè subsinuatâ, columellâ appressè arcuatâ.*

The bulky Anculotus. Shell ovate, fulvous-green, shining, purple-banded, spire conical, whorls obliquely sloping, smooth, rounded at the margin, sutures impressed, aperture rotundately ovate, obliquely effused, slightly sinuated at the upper part, columella appressly arched.

Melania corpulenta, Anthony Ann. Lyc. Nat. Hist. New York, 1854, p. 127. pl. 3. f. 28.

Hab. Dan River, North Carolina, United States.

Characterized by an obliquely effused growth and shining fulvous-green epidermis, through which may be seen the purple bands passing through to the interior.

Species 10. (Mus. Cuming.)

Anculotus subglobosus. *Anc. testâ conico-globosâ, flavescente-olivaceâ, viridi bifasciatâ, spirâ brevissimâ, anfractibus declivi-convexis, supernè obtusis, lævibus, aperturâ suborbiculari, columellâ brevi, arcuatâ.*

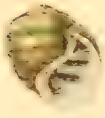
The subglobose Anculotus. Shell conically globose, yellowish-olive, encircled with two green bands, spire very short, whorls slopingly convex, obtuse round the upper part, smooth, aperture suborbicular, columella short, arched.

Melania subglobosa, Say, Journ. Acad. Nat. Sci. Philadelphia, vol. v. p. 128.

Hab. Tennessee, United States.

An obtuse obliquely sloping subglobose shell, with a nearly rounded aperture, impressed behind the columella as though umbilicated.

Anculotus Pl. II.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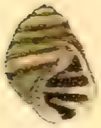
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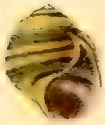
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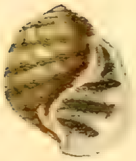
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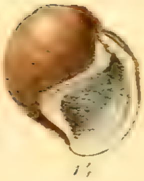
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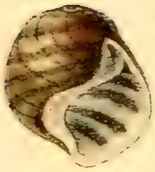
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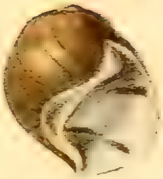
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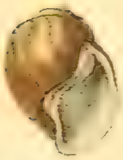
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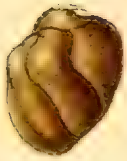
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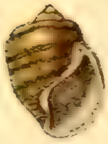
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ANCULOTUS.

PLATE II.

Species 11. (Mus. Cuming.)

ANCULOTUS PLANOSPIRA. *Anc. testâ globosâ, subobesâ, luteo-olivaceâ, viridi bifasciatâ, spirâ retusâ, vix exsertâ, anfractibus supernè tumido-rotundatis, aperturâ subamplâ, infra rotundatâ.*

THE FLAT SPIRE ANCULOTUS. Shell globose, rather stout, yellowish-olive, encircled with two green bands, spire blunt, scarcely exserted, whorls tumidly rounded at the upper part, aperture rather large, rounded below.

ANTHONY, MS. Mus. Cuming.

Hab. Kentucky, United States.

An obtusely rounded shell, with little or no indication of a sinus at the base of the aperture.

Species 12. (Mus. Cuming.)

ANCULOTUS RUBIGINOSUS. *Anc. testâ globoso-conoideâ, flavescente-olivaceâ, viridi quadrifasciatâ, spirâ retusâ, vix exsertâ, anfractibus convexo-declivibus, infernè obtusè angulatis, aperturâ obliquè ovatâ, infra rotundatâ, columellâ calloso-appressâ, vividè purpureo-tinctâ.*

THE RUSTY ANCULOTUS. Shell globosely conoid, yellowish-olive, encircled with four green bands, spire blunt, but little exserted, whorls convexly sloping, obtusely angled round the lower part, aperture obliquely ovate, rounded below, columella callously appressed, brightly purple-stained.

LEA, Trans. Amer. Phil. Soc. vol. ix. p. 20.

Anculotus amplus, Anthony.

Hab. Alabama.

Distinguished by a sloping conoid form, encircled with four green bands, which are very conspicuous in the interior, while the columella is umbilicately appressed and purple-stained.

Species 13. (Fig. *a*, *b*, Mus. Cuming.)

ANCULOTUS TINTINNABULUM. *Anc. testâ globosâ, luteo-olivaceâ, purpureo-viridi variè fasciatâ, spirâ retusâ, anfractibus supernè tumido-rotundatis, deinde planulato-declivibus, aperturâ subamplâ, supra et infra subsinuatâ, columellâ appresso-incurvâ.*

THE LITTLE BELL ANCULOTUS. Shell globose, yellowish-olive, variously banded with purple-green, spire blunt, whorls tumidly rounded at the upper part, then somewhat flatly sloping, aperture large, slightly sinuated above and below, columella appressly incurved.

LEA, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 51.

Hab. Tennessee, Alabama, United States.

A solid, globose species, but inclined in all its varieties to a sloping campanulate form.

Species 14. (Mus. Cuming.)

ANCULOTUS CRASSUS. *Anc. testâ globosâ, crassâ, fulvo-olivaceâ, spirâ rudè depressâ, anfractibus supernè tumidis et obsoletè nodulatis, deinde declivi-convexis, aperturâ subamplâ, supra et infra subsinuatâ, columellâ valdè callosâ, incurvâ.*

THE THICK ANCULOTUS. Shell globose, thick, fulvous-olive, spire rudely depressed, whorls tumid and obsoletely noduled round the upper part, then slopingly convex, aperture rather large, slightly sinuated above and below, columella very callous, incurved.

Leptoxis crassa, Haldeman, Illus. Conch. Mon. p. 2.

Hab. Tennessee, United States.

Of rude solid growth, having an inclination to become noduled round the upper part.

Species 15. (Mus. V. d. Busch.)

ANCULOTUS TÆNIATUS. *Anc. testâ globosâ, fulvo-olivaceâ, purpureo-viridi quadrifasciatâ, spirâ obtusè depressâ, anfractibus declivi-convexis, aperturâ amplâ, infra sinuatâ, columellâ calloso-incurvâ.*

THE FILLETED ANCULOTUS. Shell globose, fulvous-olive, encircled with four purple-green bands, spire obtusely depressed, whorls slopingly convex, aperture large, sinuated below, columella callously incurved.

CONRAD, New Freshwater Shells, p. 63.

Hab. Alabama, United States.

It is somewhat doubtful whether this and *A. tintinnabulum* are not varieties of the same species.

Species 16. (Mus. Cuming.)

ANCULOTUS PRÆROSUS. *Anc. testâ subconoideo-globosâ,* *solidissimâ, fulvo-aurantiâ, purpureo obscurè bifasciatâ, spirâ obtusè depressâ, anfractibus supernè tumido-declivibus, infernè subventricosis, aperturâ subamplâ, supra et infra sinuatâ, columellâ valdè callosâ.*

THE GNAWN ANCULOTUS. Shell subconoidly globose, very solid, fulvous-olive, obscurely two-banded with purple, spire obtusely depressed, whorls tumidly sloping round the upper part, rather ventricose towards the lower, aperture rather large, sinuated above and below, columella very callous.

SAY, Journ. Acad. Nat. Sci. Philadelphia, vol. xi. p. 117.
Hab. Tennessee, United States.

The most solid of the group, sloping from the spire with more ventricose proportions.

Species 17. (Fig. *a*, *b*, Mus. Cuming.
c, Mus. V. d. Busch.)

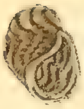
ANCULOTUS ANTHONYI. *Anc. testâ oblongo-globosâ, solidissimâ, fulvo-olivaceâ, interdum viridi-fasciatâ, spirâ paululum exsertâ, anfractibus supernè rudè nodulatis, infernè attenuatis, aperturâ oblongâ, infra sinuatâ.*

ANTHONY'S ANCULOTUS. Shell oblong-globose, very solid, fulvous-olive, sometimes green-banded, spire a little exserted, whorls rudely noduled on the upper part, attenuated towards the lower, aperture oblong, sinuated below.

BUDD, Redfield, Ann. Lyc. Nat. Hist. New York, 1854, p. 131. pl. 1. f. 6.
Hab. Tennessee, United States.

Well distinguished from the preceding species by the rudely noduled angle of the spire and more attenuated growth towards the base.

Anculotus Pl. III.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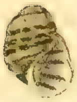
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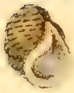
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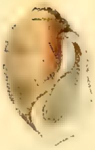
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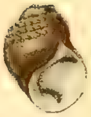
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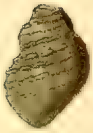
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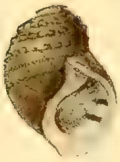
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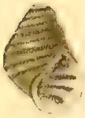
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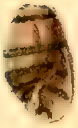
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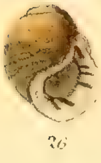

26

ANCULOTUS.

Plate III.

Species 18. (Mus. Cuming.)

Anculotus flammatus. *Anc. testâ ovato-globosâ, flavescente, semipellucidâ, flammis undatis purpureo-fuscis interruptis strigatâ, spirâ parvâ, depressâ, anfractibus supernè coarctatis et obtusè rotundatis, infernè ventricosis, aperturâ quadrato-ovatâ, columellâ latè appressâ.*

The flamed Anculotus. Shell ovately globose, yellowish, semitransparent, striped with waved interrupted flames of purple-brown, spire small, depressed, whorls contracted and obtusely rounded at the upper part, rather ventricose towards the lower, aperture squarely ovate, columella broadly appressed.

Lea, Trans. Amer. Phil. Soc. vol. xi. p. 30.

Hab. Alabama.

Distinguished by a somewhat blunt, contracted growth round the upper part, and longitudinally interruptedly wave-striped with purple-brown.

Species 19. (Mus. Cuming.)

Anculotus ligatus. *Anc. testâ conoideo-globosâ, olivaceâ, viridi quadrifasciatâ, spirâ subexsertâ, anfractibus supernè obtusè rotundatis, medio concavo-coarctatis, aperturâ obliquè ovatâ, columellâ purpureo maculatâ.*

The tied Anculotus. Shell conoidly globose, olive, encircled with four green bands, spire rather exserted, whorls obtusely rounded at the upper part, concavely contracted in the middle, aperture obliquely ovate, columella purple-spotted.

Anthony, MS. in Mus. Cuming.

Hab. Alabama, United States.

A compact conoidly globose bright-coloured species, concavely contracted in the middle.

Species 20. (Mus. Cuming.)

Anculotus pictus. *Anc. testâ ovato-globosâ, solidiusculâ, politâ, flavescente-olivaceâ, lineis viridibus remotè interruptis cingulatâ, spirâ parvâ, obtusâ, anfractibus supernè coarctato-rotundatis, aperturâ pyriformi, columellâ valdè callosâ.*

The painted Anculotus. Shell ovately globose, rather solid, polished, yellowish-olive, encircled with distantly interrupted green lines, spire small, obtuse, whorls contractedly rounded at the upper part, aperture pear-shaped, columella very callous.

Conrad, New Freshwater Shells, p. 62. Silliman's Journ. v. 2. pl. 1. f. 15.

Hab. Alabama, United States.

A very characteristic little species, of a stunted pear-like form, painted with interrupted bands.

Species 21. (Mus. Cuming.)

Anculotus obovatus. *Anc. testâ oblongo-ovatâ, flavescente-olivaceâ, spirâ parviusculâ, anfractibus supernè rotundatis, deinde concavo-planatis, versus basin attenuatis, aperturâ elongato-pyriformi, infra subsinuatâ, columellâ infernè calloso-reflexâ.*

The obovate Anculotus. Shell oblong-ovate, yellowish-olive, spire rather small, whorls rounded at the upper part, then concavely flattened, attenuated towards the base, aperture elongately pear-shaped, slightly sinuated below, columella callously reflected at the lower part.

Melania obovata, Say, New Harm. Diss. vol. ii. p. 276.

Hab. Alabama, United States.

Of a peculiar oblong *Chilina*-like form, without marking.

Species 22. (Mus. V. d. Busch.)

Anculotus plicatus. *Anc. testâ obliquè ovatâ, subglobosâ, spirâ modicè exsertâ, fusco-olivaceâ, purpureo-fusco bi-trifasciatâ, anfractibus declivi-convexis, interdum spiraliter liratis, supernè tenuiplicatis, plicis triseriatim granulatis, aperturâ ovatâ, columellâ latè callosâ, paululum reflexâ, purpureo-tinctâ.*

The plicated Anculotus. Shell obliquely ovate, subglobose, spire moderately exserted, fuscous-olive, encircled with two or three purple-brown bands, whorls slopingly convex, sometimes spirally ridged, finely plicated round the upper part, plaits with three rows of granules, aperture ovate, columella broadly callous, a little reflected, purple-stained.

Conrad, New Freshwater Shells, p. 61. pl. 8. f. 18.
Anculosa tuberculata, Lea.

Hab. United States.

Finely plicated round the upper part of the whorls, with three rows of grains on the plaits.

April, 1860.

Species 23. (Fig. *a*, *b*, Mus. Cuming.)

Anculotus smaragdinus. *Anc. testâ ovato-turbinatâ, interdum solidiusculâ, vividè viridi, spirâ tumido-exsertâ, anfractibus declivi-convexis, lævigatis, supernè triliratis, liris oblongo-granatis, aperturâ ovatâ, columellâ latè callosâ.*

The emerald-green Anculotus. Shell ovately turbinated, sometimes rather solid, bright-green, spire tumidly exserted, whorls slopingly convex, smooth, encircled round the upper part with three ridges, ridges oblong-granuled, aperture ovate, columella broadly callous.

Hab. Alabama.

This species has been confounded by Haldeman with the preceding. It is of a peculiar bright-green colour, not plicated from the sutures, but encircled with three spiral ridges, swollen with transversely oblong grains, and there is no purple stain upon the columella.

Species 24. (Mus. Cuming.)

Anculotus ornatus. *Anc. testâ conoideo-turbinatâ, flavescente-olivaceâ, semipellucidâ, viridi quinquefasciatâ, anfractibus lævibus, supernè declivi-convexis, deinde subventricosis, aperturâ ovatâ, columellâ tenuè callosâ.*

The adorned Anculotus. Shell conoidly turbinated, yellowish-olive, semitransparent, encircled with five green bands, whorls smooth, slopingly convex round the upper part, then somewhat ventricose, aperture ovate, columella thinly callous.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 67.

Hab. North Carolina, United States.

A symmetrically turbinated shell, of rather light semitransparent substance, neatly banded throughout.

Species 25. (Mus. Cuming.)

Anculotus bitæniatus. *Anc. testâ cylindraceo-oblongâ, ad basin subattenuatâ, flavescente-olivaceâ, purpureo bi-trifasciatâ, spirâ productâ, anfractibus plano-convexis, lævibus, aperturâ oblongâ, columellâ ad basin contorto-reflexâ.*

The double-filleted Anculotus. Shell cylindrically oblong, somewhat attenuated at the base, yellowish-olive, two- or three-banded with purple, spire produced, whorls flatly convex, smooth, aperture oblong, columella twistedly reflected at the base.

Melania bitæniata, Conrad.

Hab. Tennessee, United States.

There is a slight departure from the *Anculotus* type in this cylindrical species, the columella being twistedly reflected at the base.

Species 26. (Mus. Cuming.)

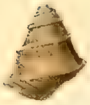
Anculotus squalidus. *Anc. testâ ovatâ vel globosâ, solidâ, flavescente-olivaceâ, viridi obscurè fasciatâ, spirâ brevi, obtusâ, anfractibus convexo-tumidis, obsoletè spiraliter liratis, aperturâ lunari-rotundatâ, columellâ latè callosâ.*

The squalid Anculotus. Shell ovate or globose, solid, yellowish-olive, obscurely banded with green, spire short, obtuse, whorls convexly tumid, obsoletely spirally ridged, aperture lunar-rounded, columella broadly callous.

Lea, Trans. Amer. Phil. Soc. vol. x. pl. 9. f. 50.

Hab. Alabama, United States.

This shell is very unlike the figure above referred to, but it has been sent to Mr. Cuming as an authentic specimen of *A. squalida*, and Mr. Lea describes the species as being peculiarly variable.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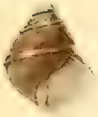
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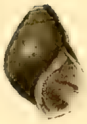
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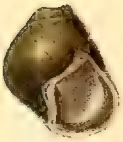
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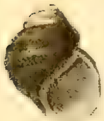
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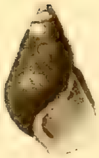
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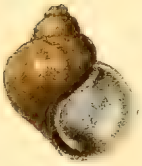
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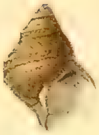
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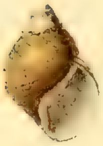
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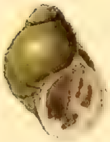
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ANCULOTUS.

PLATE IV.

Species 27. (Fig. *a*, Mus. Cuming,
Fig. *b*, Mus. V. d. Busch.)

Anculotus dissimilis. *Anc. testâ conico-turritâ, interdum subpyramidali, tenui, olivaceo-conicâ, semipellucidâ, anfractibus ventricosis, ad peripheriam plus minus acutè carinatis, carinâ in anfractu ultimo sæpè evanidâ, aperturâ ovatâ, columellâ tenuè appressâ, purpureo tinctâ.*

The dissimilar Anculotus. Shell conically turreted, sometimes sub-pyramidal, thin, olive-horny, semi-transparent, whorls ventricose, more or less sharply keeled at the periphery, keel often disappearing in the last whorl, aperture ovate, columella thinly appressed, purple-stained.

Paludina dissimilis, Say, Nich. Ency. 3rd ed. 1819.
Helix subcarinata, Wood.
Anculosa nigrescens, Conrad.

Hab. Pittsburg, United States.

This species is intermediate in its characters between *Anculotus* and *Paludina*, and might fairly be taken as the type of a distinct genus.

Species 28. (Mus. Cuming.)

Anculotus Rogersii. *Anc. testâ fusiformi-ovatâ, tenuiculâ, nigricante-olivaceâ, anfractibus declivi-convexis, lævigatis, aperturâ ovatâ, fauce purpureo fasciatâ, ad basin sinuatâ, columellâ ad basin tenuè productâ.*

Rogers' Anculotus. Shell fusiformly ovate, rather thin, dark-olive, whorls slopingly convex, smooth, aperture ovate, interior purple-banded, sinuated at the base, columella thinly produced at the base.

Melania Rogersii, New Freshwater Shells, p. 7. pl. 9. f. 7.

Hab.—— ?

Allied in general typical character to the preceding species, of a darker olive-colour, more produced at the extremity of the columella.

Species 29. (Mus. Cuming.)

Anculotus Kirtlandianus. *Anc. testâ conoideo-turbinatâ, nigricante-olivaceâ, lævigatâ, anfractibus declivibus, deinde subangustè rotundatis, subtus depressiusculâ, aperturâ fere circulari, purpureo tinctâ, columellâ appresso-productâ, purpureo tinctâ.*

Kirtland's Anculotus. Shell conoidly turbinated, dark-olive, smooth, whorls sloping, then rather narrowly rounded, somewhat depressed beneath, aperture nearly circular, purple-stained, columella appressly produced, purple-stained.

Anthony, Journ. Nat. Hist. Sci. Boston, vol. iii. pl. 3. f. 4.

Hab. Virginia, United States.

Very closely allied indeed to *A. Rogersii*, though more depressly turbinated in form.

Species 30. (Mus. V. d. Busch.)

Anculotus Troostianus. *Anc. testâ ovato-turbinatâ, lævigatâ, nigricante-olivaceâ, obscurè fasciatâ, anfractibus supernè concaviusculis, deinde rotundatis, aperturâ ferè circulari, columellâ calloso-reflexâ.*

Troost's Anculotus. Shell ovately turbinated, smooth, dark-olive, obscurely banded, whorls slightly concave round the upper part, then rounded, aperture nearly circular, columella callously reflected.

Lea, Pro. Amer. Phil. Soc. 1841.

Hab. Tennessee, United States.

Of rather more solid and rounder growth than the two preceding species, without any trace of purple staining on the columella or aperture.

Species 31. (Mus. Cuming.)

Anculotus ebenum. *Anc. testâ oblongo-conicâ, subrugosâ, nigricante-olivaceâ, spirâ amplâ, anfractibus declivibus, obsoletè rudè plicatis, aperturâ ovatâ, columellâ ad basin appresso-productâ.*

The ebon Anculotus. Shell oblong-conical, somewhat rough, dark-olive, spire large, whorls sloping, obsoletely rudely plicated, aperture ovate, columella appressly produced at the base.

Melania ebenum, Lea, Trans. Amer. Phil Soc. vol. viii. pl. 5. f. 7.

Hab. Tennessee, United States.

Rather an abnormal form of *Anculotus*, of rough conical growth.

Species 32. (Mus. Cuming.)

Anculotus patulus. *Anc. testâ turbinatâ, fulvo-olivaceâ, spirâ subexsertâ, anfractibus rotundatis, ultimo ventricoso, aperturâ circulari, patulâ, columellâ latè appressâ, intensè purpureâ.*

THE OPEN ANCULOTUS. Shell turbinated, fulvous-olive, spire somewhat exserted, whorls rounded, the last ventricose, aperture circular, wide open, columella broadly appressed, deep purple.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 68.

HAB, Tennessee, United States.

Allied to *A. Kirtlandianus*, but the whorls are rounder and more ventricose.

Species 33. (Fig. *a*, *b*, Mus. Cuming.)

ANCULOTUS SPIXIANUS. *Anc. testâ ovato-turbinatâ, tenui, fulvâ, semipellucidâ, anfractibus ventricosis, interdum lævigatis, interdum spiraliter carinatis, aperturâ ovatâ, columellâ tenuè callosâ, subcontortâ.*

SPIX'S ANCULOTUS. Shell ovately turbinated, rather thin, fulvous, semi-transparent, whorls ventricose, sometimes smooth, sometimes spirally keeled, aperture ovate, columella thinly callous, slightly twisted.

LEA, Obs. vol. iv. Cat. p. 73.

Hab. Tennessee, United States.

Of delicate structure, rather ventricose, and of a characteristic light fulvous colour.

Species 34. (Mus. Cuming.)

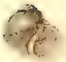
ANCULOTUS VIRIDULUS. *Anc. testâ subfusiformi-turbinatâ, solidiusculâ, olivaceo-viridi, obscurè fasciatâ, anfractibus supernè declivibus, deinde subventricosis, aperturâ ovatâ, fauce purpureo fasciatâ, columellâ latè appressâ, ad basin subproductâ, purpureo tinctâ.*

THE GREEN ANCULOTUS. Shell somewhat fusiformly turbinated, rather solid, olive-green, obscurely banded, whorls sloping round the upper part, then rather ventricose, aperture ovate, purple-banded within, columella broadly appressed, a little produced at the base, purple-stained.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 68.

Hab. United States.

Mr. Cuming has just received this shell from Mr. Anthony with the above name, but I strongly suspect it to be a variety of *A. Rogersii.*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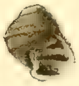
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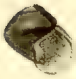
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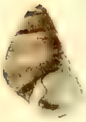
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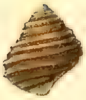
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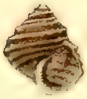
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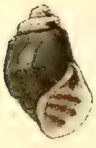
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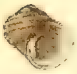
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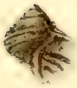
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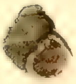
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ANCULOTUS.

Plate V.

Species 35. (Mus. Cuming.)

Anculotus integer. *Anc. testá globosá, cinereo-corneá, obscurè fasciatá, spirá parvá, anfractibus rotundatis, lævibus, aperturá pyriformi-circulari, columellá tenuè reflexá.*

The entire Anculotus. Shell globose, ash-horny, obscurely banded, spire small, whorls rounded, smooth, aperture pyriformly circular, columella thinly reflected.

Paludina integra, Say, Journ. Acad. Nat. Sci. Philadelphia, vol. ii. p. 174.

Anculotus concolor, Anthony.

Hab. United States.

The smallest species of the genus, of a round *Natica*-like form.

Species 36. (Mus. Cuming.)

Anculotus dentatus. *Anc. testá ovatá, subventricosá, olivaceo-viridi, purpureo trifasciatá, anfractibus inflatis, ad peripheriam carinatis, aperturá subamplá, columellá concavo-impressá, dentatá, livido-purpurascente.*

The toothed Anculotus. Shell ovate, rather ventricose, olive-green, encircled with three purple bands, whorls inflated, keeled at the periphery, aperture rather large, columella concavely impressed, toothed, livid-purple.

Courthouy, Journ. Bost. Soc. Nat. Hist. vol. ii. pl. 4. f. 7.

Hab. Potomac River, United States.

A small inflated shell, prominently keeled at the periphery, and having a small contorted tooth on the columella.

Species 37. (Mus. V. d. Busch.)

Anculotus monodontoides. *Anc. testá subglobosá, purpureo-nigrá, spirá parvá, depressá, anfractibus supernè convexo-declivibus, deinde subangulatis, lævibus, aperturá subamplá, columellá contorto-dentatá.*

The single-toothed Anculotus. Shell subglobose, purple-black, spire small, depressed, whorls convexly sloping at the upper part, then rather angled, smooth, aperture rather large, columella twistedly toothed.

Conrad, New Freshwater Shells, p. 62. pl. 8. f. 6.

Hab. Virginia, United States.

A smooth, purple-black shell, with the spire much less exserted than in the preceding species, and the last whorl is simply angled, not keeled, at the periphery.

Species 38. (Mus. Cuming.)

Anculotus dilatatus. *Anc. testá ovato-pyramidali, olivaceá, anfractibus supernè plano-declivibus, longitudinaliter plicato-striatis, anfractu ultimo subtus depresso, aperturá ovatá, columellá contorto-dentatá, dente purpurascente.*

The dilated Anculotus. Shell ovately pyramidal, olive, whorls flatly sloping round the upper part, longitudinally plicately striated, last whorl depressed beneath, aperture ovate, columella twistedly toothed, tooth purple-stained.

Conrad, New Freshwater Shells, p. 6. pl. 9. f. 5.

Hab. Virginia, United States.

The twisted tooth and general pyramidal contour of this shell gives it very much the aspect of an *Achatinella*.

Species 39. (Fig. *a*, *b*, Mus. Cuming.)

Anculotus canaliferus. *Anc. testá conoideo-turbinatá, fulvo-olivaceá, nigricante fasciatá, anfractibus declivibus, undique prominentè carinatis, ultimo subinflato, aperturá ovatá, columellá calloso-reflexá.*

The channelled Anculotus. Shell conoidly turbinated, fulvous-olive, black-banded, whorls sloping, prominently keeled throughout, last whorl rather inflated, aperture ovate, columella callously reflected.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 68.

Hab. Dan River, North Carolina, United States.

A shining fulvous-olive prominently-keeled species, of very conspicuous character.

Species 40. (Mus. Cuming.)

Anculotus basalis. *Anc. testá ovatá, nigricante-olivaceá, anfractibus supernè concavo-declivibus, ad peripheriam subcarinatis, aperturá ovatá, fauce purpureo quadrifasciatá, supra et infra subsinuatá, columellá subcallosá.*

The basal Anculotus. Shell ovate, dark-olive, whorls concavely sloping round the upper part, faintly keeled at the periphery, aperture ovate, marked within with four purple bands, slightly sinuated above and below, columella rather callous.

Melania basalis, Lea, Trans. Amer. Phil. Soc. pl. 9. f. 33.
Hab. Alabama, United States.

The keel surrounding the periphery of this species is somewhat indistinct, and is probably often wanting.

Species 41. (Fig. 41 *a*, Mus. V. d. Busch.)

Anculotus costatus. *Anc. testá globosá, subinflatá, fulvo-olivaceá, spirá minutá, anfractibus convexis, undique spiraliter carinatis, ultimo multo majore, columellá callosá, purpureo tinctá.*

The ribbed Anculotus. Shell globose, somewhat inflated, fulvous-olive, spire very small, whorls convex, spirally keeled throughout, the last whorl much the larger, columella callous, purple-stained.

Anthony, Boston Journ. Nat. Hist. vol. iii. pl. 3. f. 1.
Hab. Ohio, United States.

A *Lacuna*-like shell, regularly spirally ribbed with fine keels.

Species 42. (Mus. Cuming.)

Anculotus carinatus. *Anc. testá ovato-turbinatá, olivaceo-viridi, spirá subexsertá, anfractibus declivi-convexis, deinde angulato-carinatis, undique minutè decussatim striatis, aperturá pyriformi-ovatá, columellá concavo-appressá, quasi umbilicatá.*

The keeled Anculotus. Shell ovately turbinated, olive-green, spire rather exserted, whorls slopingly convex, then angularly keeled, minutely decussately striated throughout, aperture pyriformly ovate, columella concavely appressed, as though umbilicated.

Anthony, Boston Journ. Nat. Hist. vol. iii. p. 394. pl. 3. f. 5.
Hab. Falls of the Kanawha, United States.

The spire of this species is more solidly exserted than in the preceding.

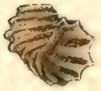
Species 43. (Fig. 41 *b*, Mus. V. d. Busch.)

Anculotus trilineatus. *Anc. testá turbinatá, tenui, viridulá, lineis purpureis tribus cingulatá, spirá parvá, acutá, anfractibus convexis, ultimo multo majore, inflato, aperturá amplá, patulá, columellá calloso-appressá, purpureo tinctá.*

The three-lined Anculotus. Shell turbinated, thin, greenish, encircled with three purple lines, spire small, sharp, whorls convex, the last much the larger, inflated, aperture large, open, columella callously appressed, purple-stained,

Melania trilineata, Say, New Harm. Diss. vol. ii. p. 277.
Hab. Falls of Ohio, United States.

It will be seen by the numbering of the figure, 41 *b*, that I had regarded Mr. Anthony's *A. costatus* to be a variety of this species, but the form, colouring, and keeling are of a distinct kind.



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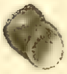

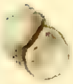

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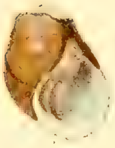

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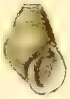

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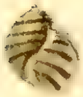

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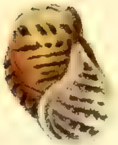

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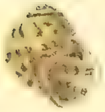
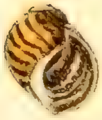
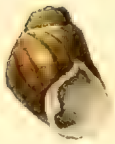






Sowerby del et lith

ANCULOTUS.

PLATE VI.

Species 44. (Mus. Anthony.)

Anculotus sulcosus. *Anc. testâ ovatâ, tenuiculâ, inflatâ, sordidè fulvâ, spirâ brevissimâ, planâ, anfractibus spiraliter carinatis, carinis peramplis, rotundatis, distantibus, interstitiis latè excavatis; aperturâ ovatâ, amplâ, patulâ, columellâ brevi.*

The grooved Anculotus. Shell ovate, rather thin, inflated, dirty-fulvous, spire very short, flat, whorls spirally keeled, keels very large, rounded, distant, with the interstices broadly excavated; aperture ovate, large, wide, open, columella short.

Anthony, MS.

Hab. Alabama, United States.

A very remarkable *Purpura*-shaped species, composed of largely-defined winding keel-like ribs, broadly excavated in the interstices.

Species 45. (Mus. Anthony.)

Anculotus pumilus. *Anc. testâ subglobosâ, Naticæformi, virente-nigrâ, spirâ parvâ, anfractibus convexis, lævibus; aperturâ lunari-ovatâ.*

The dwarf Anculotus. Shell subglobose, Natica-shaped, greenish-black, spire small, whorls convex, smooth; aperture lunar-ovate.

Conrad, Freshwater Shells.

Hab. Alabama, United States.

A small, smooth, *Natica*-shaped species, of rather solid growth.

Species 46. (Mus. Anthony.)

Anculotus Nuttalii. *Anc. testâ globosâ, olivaceâ, spirâ, parvâ, anfractibus rotundatis, subinflatis, lævibus; aperturâ lunari-orbiculari.*

Nuttal's Anculotus. Shell globose, olive, spire small, whorls rounded, a little inflated, smooth; aperture lunar-orbicular.

Lea, MS. in Mus. Anthony.

Anculotus fuscus, Haldeman.

Hab. Oregon, North America.

A rather larger species than the preceding, distinguished by a more rotundately inflated form.

Species 47. (Mus. Anthony.)

Anculotus rubiginosus. *Anc. testâ pyramidali-conoideâ, brevi, crassâ, ferrugineo-fuscâ, anfractibus declivibus, spiraliter multiliratis, liris obtusis, irregularibus, interdum ferè obsoletis; aperturâ lunari-orbiculari.*

The rusty Anculotus. Shell pyramidally conoid, short, thick, rust-brown, whorls sloping, spirally many-ridged, ridges obtuse, irregular, sometimes nearly obsolete; aperture lunar-orbicular.

Lea, Trans. Amer. Phil. Soc. vol. ix. p. 20.

Hab. Alabama, United States.

This, and not the shell given at Plate II. Fig. 12, is the true *A. rubiginosus.* It is of a uniform fulvous-brown colour, without bands, encircled with irregular close-set ridges, which are sometimes obsolete.

Species 48. (Mus. Anthony.)

Anculotus Melanoides. *Anc. testâ conico-ovatâ, olivaceâ, nitente, anfractibus declivi-convexis, ultimo medio obtusè angulato, lævibus vel longitudinaliter plicato-striatis; aperturâ ovatâ.*

The Melania-like Anculotus. Shell conically ovate, olive, shining, whorls slopingly convex, the last obtusely angled round the middle, smooth, or longitudinally plicately striated; aperture ovate.

Conrad, Freshwater Shells.

Hab. Alabama, United States.

A shell of very simple character, intermediate in form between *Melania* and *Anculotus.*

Species 49. (Mus. Anthony.)

Anculotus elegans. *Anc. testâ subglobosâ, subinflatâ, flavescente-olivaceâ, fasciis virente-nigris quatuor regularibus distantibus cingulatâ, spirâ parvâ, anfractibus convexis, lævibus; aperturâ ovatâ, amplâ, patulâ.*

The elegant Anculotus. Shell subglobose, rather inflated, yellowish-olive, encircled with four regular, distant, greenish-black bands, spire small, whorls convex, smooth; aperture ovate, large, open.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 69.

Hab. Alabama, United States.

An elegantly-painted semitransparent inflated species.

Species 50. (Fig. 50 *b*, Mus. Anthony.)

ANCULOTUS TÆNIATUS. *Anc. testâ ovato-conoideâ, fulvescente-olivaceâ, fasciis interruptis virente-nigris cingulatâ, anfractibus declivi-convexis, lævibus; aperturâ pyriformi-ovatâ.*

THE FILLETED ANCULOTUS. Shell ovately conoid, fulvous-olive, encircled with interrupted bands of green and black, whorls slopingly convex, smooth; aperture pyriformly ovate.

CONRAD, New Freshwater Shells, p. 63.

Hab. Alabama, United States.

On the authority of Mr. Anthony, who possesses a specimen named by Conrad himself, I am able to give this as *A. tæniatus* instead of the shell represented at Plate II. Fig. 15, which appears to be a banded *A. prærosus* or *tintinnabulum.* It is a strong peculiarity of *A. tæniatus* that the bands are interrupted, while the shell is more conical.

Species 51. (Mus. Anthony.)

ANCULOTUS ANGULATUS. *Anc. testâ subglobosâ, fulvescente-olivaceâ, fasciis nigro-virentibus cingulatâ, spirâ brevi, anfractibus rotundatis, angulatè bicarinatis; aperturâ ovatâ, columellâ excavato-incurvâ.*

THE ANGLED ANCULOTUS. Shell subglobose, fulvous-olive, encircled with interrupted dark-green bands, spire short, whorls rounded, angularly two-keeled; aperture ovate, columella excavately incurved.

CONRAD, Freshwater Shells.

Hab. Alabama, United States.

The whorls of this species obtain a slight angled appearance from the presence of two very faintly developed distant keels.

Species 52. (Mus. Anthony.)

ANCULOTUS ZEBRA. *Anc. testâ subglobosâ, fulvâ, nigro-virente interruptè strigatâ, spirâ brevi, anfractibus supernè obtusè contractis, deinde convexis, lævibus; aperturâ ovatâ, subamplâ.*

THE ZEBRA-LIKE ANCULOTUS. Shell subglobose, fulvous, interruptedly streaked with dark-green, spire short, whorls obtusely contracted at the upper part, then convex, smooth; aperture ovate, rather large.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 69.

Hab. Alabama, United States.

The dark-green painting of this species is not disposed in spiral bands, but in interrupted longitudinal streaks.

Species 53. (Mus. Anthony.)

ANCULOTUS AFFINIS. *Anc. testâ conico-ovatâ, sordidè olivaceâ, anfractibus declivi-convexis, lævibus, ultimo medio subobsoletè carinato; aperturâ rotundato-ovatâ, columello calloso-dentatâ.*

THE ALLIED ANCULOTUS. Shell conically ovate, dirty-olive, whorls slopingly convex, smooth, the last faintly keeled round the middle; aperture rotundately ovate, columella callously toothed.

HALDEMAN, MS. in Mus. Anthony.

Hab. Southern United States.

Of a different type from any of the preceding species, with the columella abruptly toothed.

ANCULOTUS.

	Plate	Species.
amplus, Anth.	II.	12
affinis, *Hald.*	VI.	53
angulatus, *Conr.*	VI.	51
Anthonyi, *Budd*	II.	17
basalis (*Mel.*), Lea	V.	40
bitæniatus (*Mel.*), Conr.	III.	25
canaliferus, *Anth*	V	39
carinatus, *Anth.*	V	42
concolor, Anth.	V	35
consanguineus, *Anth.*	I.	2
corpulentus, *Anth.*	I	9
costatus, *Anth*	V	41
crassus (*Leptoxis*), Hald.	II	14
dentatus, *Courth.*	V	36
dilatatus, *Conr.*	V.	38
dissimilis (*Palud.*), Say	IV.	27
ebenum (*Mel.*), Lea	IV.	31
elegans, *Anth.*	VI.	49
flammatus, *Lea.*	III	18
Florentianus (*Mel.*), Lea	I.	4
geniculatus, *Hald.*	I.	7
gibbosus, *Lea*	I.	3
Griffithsianus, *Lea*	I.	8
integer (*Palud.*), Say	V.	35
Kirtlandianus, *Anth.*	IV.	29
ligatus, *Anth.*	III.	19
lima (*Mel.*), *Conr.*	I.	5
Melanoides, *Conr.*	VI.	48
monodontoides, *Conr.*	V.	37
nigrescens, Conr.	IV.	27
nuperus (*Mel.*), Say	I.	1
Nuttallii, *Lea*	VI.	46
obovatus (*Mel.*), Say	III.	21
ornatus, *Anth.*	III.	24
patulus, *Anth.*	IV.	32
pictus, *Conr.*	III.	20
planospira, *Anth.*	II.	11
plicatus, *Conr.*	III.	22
prærosus, *Say*	II.	16
pumilus, *Conr.*	VI.	45
Rogersii (*Mel.*), Conr.	IV.	28
rubiginosus, *Lea*	VI.	47
salebrosus (*Mel.*), Conr.	I.	6
smaragdinus, *Reeve*	III.	23
Spixianus, *Lea*	IV.	33
squalidus, *Lea*	III.	26
subglobosus (*Mel.*), Say	I.	10
sulcosus, *Anth.*	VI.	44
tæniatus, *Conr.*	VI.	50
tintinnabulum, *Lea*	II.	13
trilineatus (*Mel.*), Say	V.	43
Troostianus, *Lea*	IV.	30
tuberculatus, Lea	III.	22
viridulus, *Anth.*	IV.	34
zebra, *Anth.*	VI.	52

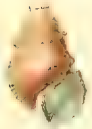
MONOGRAPH

OF THE GENUS

MELATOMA.

> "Now thou and I are new in amity."
>
> *Shakspeare*

Melatoma Pl. I.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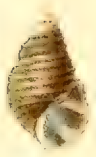
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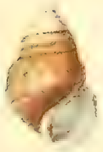
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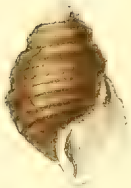
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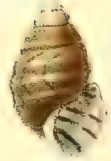
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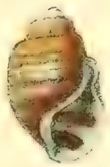
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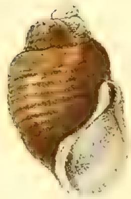
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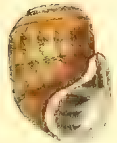
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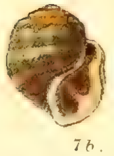
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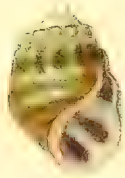
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Sowerby, del et lith
Vincent Brooks, Imp.

MELATOMA.

Plate I.

Genus MELATOMA, *Anthony*.

Testa cylindraceo-ovata, solidiuscula, spirâ brevi, nunc exsertâ, nunc subimmersâ, anfractibus quinque ad sex, plerumque spiraliter liratis, raro lævibus, aperturâ ovatâ, supernè fissuratâ. Operculum corneum.

Shell cylindrically ovate, rather solid, spire short, sometimes exserted, sometimes rather immersed, whorls five to six, generally spirally ridged, rarely smooth, aperture ovate, slit at the upper part. Operculum horny.

Under this head is associated a group of *Melaniadæ*, closely allied to *Anculotus*, but distinguished by the presence of a slit at the junction of the lip with the body-whorl, which is rarely superficial, and in some species is singularly deeply cut. They are restricted to a very confined locality in Alabama, all the species but one being recorded by Mr. Lea as collected by Dr. Budd at Tuscaloosa, in that State.

The genus was founded by Mr. Lea with the name *Schizostoma*, but that title having been used by Professor Brown for a fossil genus of shells; it was altered by Mr. Anthony to *Melatoma*.

Species 1. (Fig. *a*, *b*, Mus. Cuming.)

Melatoma pagoda. *Mel. testâ ovatâ, fulvo-brunneâ, anfractibus quinque ad sex, convexis, spiraliter liratis, liris nunc obsoletis, nunc prominentè carinatis; aperturâ parviusculâ, fissurâ subprofundâ.*

The pagoda Melatoma. Shell ovate, fulvous-brown, whorls five to six, convex, spirally ridged, ridges sometimes obsolete, sometimes prominently keeled; aperture rather small, slit rather deep.

Schizostoma pagoda, Lea, Trans. American Phil. Soc. vol. x. pl. 9. f. 52 and 55.
Schizostoma constrictum.

Hab. Tuscaloosa, Alabama, United States, Dr. Budd.

Of a uniform smooth fulvous-brown, variously spirally ridged. The typical state of the species is to have the ridges so prominently developed as to take the form of ring-like keels. Mr. Lea's *Schizostoma constrictum* is *M. pagoda*, with the ridges almost obsolete, absorbed in the larger growth of the shell.

Species 2. (Mus. Cuming.)

Melatoma excisum. *Mel. testa ovatâ, plus minus globosâ, flavescente, æreo-viridi fasciatâ, anfractibus convexis, undique spiraliter carinato-liratis, lirâ supremâ interdum tumidâ, prominentiore; aperturâ parviusculâ, fissurâ profundissimâ.*

The excised Melatoma. Shell ovate, more or less globose, yellowish, banded with brown-green, whorls convex, spirally keel-ridged throughout, uppermost keel sometimes swollen and more prominent; aperture rather small, slit very deep.

Melania excisa, Lea, Trans. American Phil. Soc. 1842.
Schizostoma ovoideum, Shuttleworth.

Hab. Alabama, United States.

Of a characteristic bronze colouring, encircled throughout with ring-like ridges, with the slit deeper cut than in any other species of the genus. Mr. Shuttleworth's *Schizostoma ovoideum* is a more obese form of the species, with the uppermost ridge of the whorls swollen into a keel as in the more typical varieties of the preceding species.

Species 3. (Mus. Cuming.)

Melatoma Buddii. *Mel. testâ obeso-ovatâ, fulvo-brunneâ, anfractibus quinque, declivi-convexis, undique spiraliter liratis, liris distantibus; aperturâ ovatâ, ad basin subeffusâ, fissurâ parvâ, ferè obsoletâ.*

Budd's Melatoma. Shell stoutly ovate, fulvous-brown, whorls five, slopingly convex, spirally ridged throughout, ridges distant; aperture ovate, slightly effused at the base, fissure small, almost obsolete.

Schizostoma Buddii, Lea, Trans. American Phil. Soc. vol. x. pl. 9. f. 53.

Hab. Tuscaloosa, Alabama; Dr. Budd.

A robust shell, encircled with ridges which are chiefly characteristic in being rather distant from each other. The slit in the only specimen I have seen is quite superficial.

Species 4. (Mus. Cuming.)

Melatoma incisum. *Mel. testâ abbreviato-ovatâ, subcylindraceâ, flavescente, purpureo-viridi fasciatâ, spirâ subimmersâ, anfractibus plano-convexis, supernè obtuso-rotundatis; aperturâ ovatâ, fissurâ mediocri.*

The incised Melatoma. Shell shortly ovate, somewhat cylindrical, yellowish, banded with purple-green, spire rather immersed, whorls flatly convex, bluntly rounded at the upper part; aperture ovate, slit moderate.

Melania incisa, Lea, Trans. American Phil. Soc. 1842.

Hab. Alabama.

A well-formed species, of simple character, banded with purple-green upon a yellowish ground.

Species 5. (Mus. Cuming.)

Melatoma funiculatum. *Mel. testâ conico-ovatâ, aurantio-fulvâ, purpureo-viridi angustè zonatâ, anfractibus convexis, spiraliter liratis, liris subdistantibus, interdum carinatis; aperturâ parviusculâ, fissurâ profundâ.*

The corded Melatoma. Shell conically ovate, orange-fulvous, narrowly zoned with purple-green, whorls convex, spirally ridged, ridges rather distant, sometimes keeled; aperture rather small, slit deep.

Schizostoma funiculatum, Lea, Trans. American Phil. Soc. vol. x. pl. 9. f. 56.

Schizostoma incisum, Shuttleworth.

Hab. Tuscaloosa, Alabama; Dr. Budd.

Neatly corded, on an orange-fulvous ground, with purple-green ridges, which appear conspicuously in the interior.

Species 6. (Mus. Cuming.)

Melatoma Babylonicum. *Mel. testâ cylindraceo-ovatâ, solidâ, fulvo-brunneâ, anfractibus gibboso-convexis, spiraliter superficialiter liratâ, supernè obsoletè rudè obliquè plicatis; aperturâ parviusculâ, fissurâ latâ.*

The Babylonian Melatoma. Shell cylindrically ovate, solid, fulvous-brown, whorls gibbously convex, spirally superficially ridged, obsoletely rudely obliquely plicated round the upper part; aperture rather small, slit broad.

Schizostoma Babylonicum, Lea, Trans. American Phil. Soc. vol. x. pl. 9. f. 54.

Hab. Tuscaloosa, Alabama; Dr. Budd.

A stout, solid, fulvous-brown species, ridged throughout, but the ridges are slight, and a little irregular, and there are indications round the upper edge of the whorls of rude oblique folds.

Species 7. (Fig. 7 *a*, 7 *b*, and 8, Mus. Cuming.)

Melatoma quadratum. *Mel. testâ quadrato-ovatâ, flavidâ, purpureo-viridi fasciatâ, spirâ nunc exsertâ, nunc plano-immersâ, anfractibus plano-convexis, lævibus, supernè interdum rudè plicato-nodulatis; aperturâ basi subsinuatâ, fissurâ latâ.*

The square Melatoma. Shell squarely ovate, yellow, banded with purple-green, spire sometimes exserted, sometimes flatly immersed, whorls flatly convex, smooth, sometimes rudely plicately noduled at the upper part; aperture a little sinuated at the base, fissure broad.

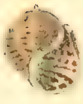
Anthony, MS. in Mus. Cuming.

Melatoma rectum, Anthony.

Melatoma salebrosum, Anthony.

Hab. Alabama.

The shells represented at Fig. 7 *a*, 7 *b*, and 8, are the specimens transmitted to Mr. Cuming by Mr. Anthony with the names *M. rectum*, *quadratum*, and *salebrosum*. I believe them to be varieties of one and the same species, and have selected the name *quadratum* as being most characteristic of their peculiarity of form.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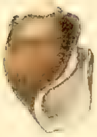
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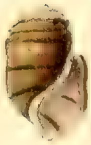
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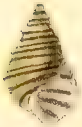
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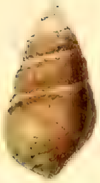
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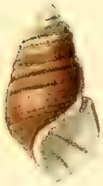
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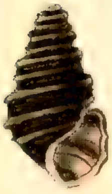
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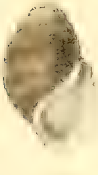
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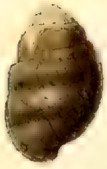
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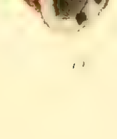
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MELATOMA.

PLATE II.

Species 8. (Mus. Anthony.)

MELATOMA SPHÆRICUM. *Mel. testâ subglobosâ, flavescente-olivaceâ, vittis virescente-nigris interruptis cingulatâ, spirâ parvâ, subimmersâ, anfractibus convexis, lævibus, subinflatis, fissurâ suturali subcanaliculatâ; columellâ callosâ.*

THE SPHEROID MELATOMA. Shell subglobose, yellowish-olive, encircled with interrupted fillets of greenish-black, spire small, somewhat immersed, whorls convex, smooth, rather inflated, sutural fissure slightly channelled; columella callous.

Gyrotoma sphærica, Anthony, MS.

Hab. Coosa River, Alabama, United States.

A small globose shell, with its little spire distinctly immersed, characterized by a copious banding throughout of interrupted fillets of greenish-black, fuscous in the interior.

Species 9. (Mus. Anthony.)

MELATOMA DEMISSUM. *Mel. testâ cylindraceo-ovatâ, obesâ, abruptè truncatâ, fusco-olivaceâ, anfractibus paucis, concavo-planis, lævibus, ultimo versus aperturam demisso; aperturâ parviusculâ, fissurâ latâ, profundâ.*

THE FALLING MELATOMA. Shell cylindrically ovate, stout, abruptly truncated, fuscous-olive, whorls few, concavely flattened, smooth, the last falling towards the aperture; aperture rather small, fissure broad, deep.

Gyrotoma demissa, Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 65.

Hab. Southern United States.

The upper part of this specimen is truncated, but only by erosion.

Species 10. (Mus. Anthony.)

MELATOMA RECTUM. *Mel. testâ oblongo-cylindraceâ, fulvo-olivaceâ, fasciis nigris angustis distantibus cingulatâ, anfractibus planiusculis, lævibus; aperturâ parviusculâ, ad basin paululum effusâ, fissurâ subprofundâ, columellâ contorto-incurvâ.*

THE STRAIGHT MELATOMA. Shell oblong-cylindrical, fulvous-olive, encircled with three distant narrow black bands, whorls rather flat, smooth; aperture rather small, a little effused at the base, fissure rather deep, columella twistedly incurved.

Gyrotoma recta, Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 64.

Hab. Alabama, United States.

Of a straight cylindrically oblong form, rather attenuately effused at the base, with the columella more than usually arcuately twisted. Before receiving the type of this species, I had quoted it as a variety of *M. incisum.*

Species 11. (Mus. Anthony.)

MELATOMA ORNATUM. *Mel. testâ ovatâ, subpyramidaliturritâ, flavescente-olivaceâ, nigrescente-viridi concinnè spiraliter funiculatâ, anfractibus quinque ad sex, supernè concavo-declivibus, ad suturas carinatis; aperturâ parvâ, fissurâ latâ, modicè profundâ, columellâ tenuè reflexâ, subrosaceo-albâ.*

THE ORNATE MELATOMA. Shell ovate, somewhat pyramidally turreted, yellowish-olive, neatly spirally corded with dark green, whorls five to six, concavely sloping round the upper part, keeled at the sutures; aperture small, fissure broad, moderately deep, columella thinly reflected, pinkish-white.

Anculosa ornata, Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 67.

Gyrotoma ornata, Anthony.

Hab. North Carolina, United States.

A charming little species, banded in a most characteristic manner, with raised dark green cord-like ridges upon a clear yellowish-olive ground.

Species 12. (Mus. Anthony.)

MELATOMA ANTHONYI. *Mel. testâ conico-ovatâ, solidiusculâ, fulvo-fuscâ, spirâ productâ, anfractibus supernè declivibus, medio concavo-impressis, ultimo lirâ unicâ tenebrosâ cingulatâ; aperturâ subangustâ, ad basin attenuato-effusâ, columellâ arcuato-contortâ.*

ANTHONY'S MELATOMA. Shell conically ovate, rather solid, fulvous-brown, spire produced, whorls sloping round the upper part, concavely impressed round the middle, last whorl encircled by a single dark ridge; aperture rather narrow, attenuately effused at the base, columella arcuately twisted.

April, 1861.

Hab. Alabama, United States.

This shell, received from Mr. Anthony without a name, appears to me to be distinct, and I am glad to avail myself of the opportunity of dedicating it to a gentleman to whom we are so largely indebted beyond all others for his researches after the *Melaniadæ* of the Southern United States of America.

Species 13. (Mus. Anthony.)

Melatoma cariniferum. *Mel. conico-turritâ, subpyramidali, olivaceâ, nigro-fusco undique saturatè fasciatâ, spirâ ampliter productâ, anfractibus carinis duabus grossis distantibus cingulatis, interstitiis concavis; aperturâ parvâ, fissurâ profundâ.*

The keeled Melatoma. Shell conically turreted, subpyramidal, olive, darkly banded throughout with black brown, spire largely produced, whorls encircled round the middle with two distant thick keels, concave in the interstices; aperture small, fissure deep.

Gyrotoma carinifera, Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 66.

Hab. Coosa River, Alabama, United States.

A solid pyramidally conoid species, encircled with dingy broad bands, and with remarkably boldly defined keels.

Species 14. (Fig. *a*, *b*, Mus. Anthony.)

Melatoma robustum. *Mel. testâ subgloboso-ovatâ, sordidè olivaceâ, nigro trifasciatâ, anfractibus convexis, lævibus, supernè subcontractis; aperturâ ovatâ, fissurâ profundâ.*

The robust Melatoma. Shell subglobosely ovate, dingy-olive, encircled with three black bands, whorls convex, smooth, rather contracted round the upper part; aperture ovate, fissure deep.

Gyrotoma robusta, Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 67.

Hab. Coosa River, Alabama, United States.

Of rather simple character, chiefly characterized by a contracted growth of the upper portion of the whorls, which imparts a globose form to the shell.

Species 15. (Mus. Anthony.)

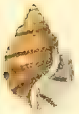
Melatoma salebrosum. *Mel. testâ ovatâ, obesâ, rectâ, supernè plicato-rugosâ, olivaceâ, nigrescente-viridi trifasciatâ, anfractibus plano-convexis; aperturâ ovatâ, fauce purpureo tinctâ, columellâ calloso-reflexâ.*

The rugged Melatoma. Shell ovate, stout, straight, plicately rugose round the upper part, olive, encircled with three dark green bands, whorls flatly convex; aperture ovate, purple-stained within, columella callously reflected.

Gyrotoma salebrosa, Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 66.

Hab. Coosa River, Alabama, United States.

This appears to me rather a doubtful species, its rugged plicated growth may prove to be accidental.



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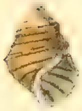

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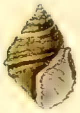

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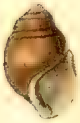

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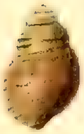

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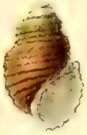

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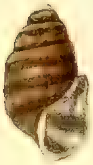

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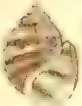

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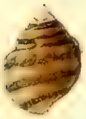

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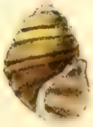

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Vincent Brooks, Imp.

MELATOMA.

Plate III.

Species 16. (Mus. Anthony.)

Melatoma amplum. *Mel. testâ subgloboso-ovatâ, flavescente-olivaceâ, fasciis tribus virente-nigris angustis distantibus cingulatâ, spirâ breviusculâ, acuminatâ, anfractibus convexis, lævibus; aperturâ oblongo-ovatâ, fissurâ profundâ.*

The ample Melatoma. Shell somewhat globosely ovate, yellowish-olive, encircled with three narrow, distant, greenish-black bands, spire rather short but acuminated, whorls convex, smooth; aperture oblong-ovate, fissure deep.

Gyrotoma ampla, Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 66.

Hab. Coosa River, Alabama, United States.

The spire of this elegant little species, though short, is rather sharply acuminated; the fissure is very conspicuously developed.

Species 17. (Mus. Anthony.)

Melatoma Wetumpkaense. *Mel. testâ ovatâ, abbreviato-pyramidali, olivaceâ, virente-nigro spiraliter funiculatâ, anfractibus supernè declivibus, medio angulato-carinatis; aperturâ parviusculâ, ad basin subeffusâ, fissurâ mediocri.*

The Wetumpka Melatoma. Shell ovate, shortly pyramidal, olive, spirally corded with greenish-black, whorls sloping round the upper part, angularly keeled round the middle; aperture rather small, slightly effused at the base, slit moderate.

Schizostoma Wetumpkaense, Lea.
Gyrotoma Wetumpkaense, Anthony.

Hab. Coosa River, Alabama, United States.

A well-defined species, prominently angularly keeled round the middle.

Species 18. (Mus. Anthony.)

Melatoma globosum. *Mel. testâ globoso-ovatâ, livido-olivaceâ, spirâ breviusculâ, acutâ subimmersâ, anfractibus declivi-convexis, multicarinatis; aperturâ angustè ovatâ, ad basin subeffusâ, fissurâ profundâ.*

The globose Melatoma. Shell globosely ovate, livid-olive, spire rather short, sharp, a little immersed, whorls slopingly convex, many-keeled; aperture narrowly ovate, a little effused at the base, fissure deep.

Schizostoma globosa, Lea.
Gyrotoma globosa, Anthony.

Hab. Alabama, United States.

The whorls of this species are more keeled than those of the preceding, and not angularly produced round the middle.

Species 19. (Mus. Anthony.)

Melatoma nucula. *Mel. testâ obtusè conicâ fulvo-olivaceâ, anfractibus convexis, lævibus; aperturâ angustè ovatâ, ad basin subeffusâ, fissurâ profundâ.*

The little nut Melatoma. Shell obtusely conical, fulvous-olive, whorls convex, smooth; aperture narrowly ovate, a little effused at the base, fissure deep.

Gyrotoma nucula, Anthony, MS.

Hab. Coosa River, Alabama, United States.

Chiefly distinguished by the simplicity of its characters, the shell being neither sculptured nor banded.

Species 20. (Fig. *a*, *b*, Mus. Anthony.)

Melatoma Alabamense. *Mel. testâ conico-ovatâ, fulvo-fuscâ, anfractibus convexis, multicarinatis, carinis obtusis, obsoletè plicato-nodulosis; aperturâ angustè ovatâ, fissurâ profundâ.*

The Alabama Melatoma. Shell conically ovate, fulvous-brown, whorls convex, many-keeled, keels obtuse, obsoletely plicately noduled; aperture narrowly ovate, fissure deep.

Schizostoma Alabamensis, Lea.
Gyrotoma Alabamensis, Anthony.

Hab. Coosa River, Alabama, United States.

Encircled with numerous obtuse keels, which present faint indications of being noduled.

Species 21. (Mus. Anthony.)

Melatoma ellipticum. *Mel. testâ oblongo-ovatâ, flavescente-olivaceâ, fasciis tribus latis virente-nigris cingulatâ, spirâ subproductâ, obtusâ, anfractibus plano-convexis, lævibus, versus apicem obsoletè rudè plicatis; aperturâ angustè ovatâ, fissurâ profundâ.*

April, 1861.

THE ELLIPTIC MELATOMA. Shell oblong-ovate, yellowish-olive, encircled with three broad greenish-black bands, spire rather produced, obtuse, whorls flatly convex, smooth, faintly rudely plicated towards the apex; aperture narrowly ovate, fissure deep.

Gyrotoma elliptica, Anthony, MS.

Hab. Coosa River, Alabama, United States.

A well-defined species, though partaking of the typical characters of some others.

Species 22. (Fig. *a*, *b*, Mus. Anthony.)

MELATOMA BULBOSUM. *Mel. testâ globosâ, flavescente-olivaceâ, virente-nigro trifasciatâ, spirâ parvâ, subacutè acuminatâ, anfractibus rotundatis, supernè obsoletè obliquè plicatis; aperturâ ovatâ, fissurâ profundâ.*

THE BULBOUS MELATOMA. Shell globose, yellowish-olive, encircled with three bands of greenish-black, spire small, rather sharply acuminated, whorls rounded, faintly obliquely plicated round the upper part; aperture ovate, fissure deep.

Gyrotoma bulbosa, Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 65.

Hab. Coosa River, Alabama, United States.

A short globose species, with a short sharply acuminated spire.

Species 23. (Mus. Anthony.)

MELATOMA SHOWALTERI. *Mel. testâ ovatâ, obtusè conicâ, sordidè fuscâ, anfractibus convexis, irregulariter bicarinatis, carinis obtusis obsoletè nodulatis; aperturâ ovatâ, fissurâ profundâ.*

SHOWALTER'S MELATOMA. Shell ovate, obtusely conical, dingy-brown, whorls convex, irregularly two-keeled, keels obtuse, faintly noduled; aperture ovate, fissure deep.

Schizostoma Showalteri, Lea.

Gyrotoma Showalteri, Anthony.

Hab. Coosa River, Alabama, United States.

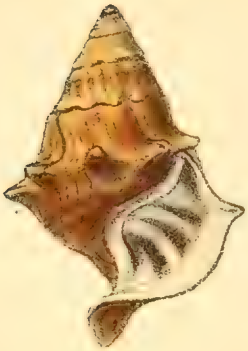
A dingy brown, black-banded shell, encircled round the middle with two faintly noduled keels.

MONOGRAPH

OF THE GENUS

I O.

“ Have you not set Lysander, as in scorn,
To follow me and praise my eyes and face?
And made your other love, Demetrius,
(Who even but now did spurn me with his foot,
To call me goddess, nymph, divine, and rare,
Precious, celestial?”—*Shakspeare.*



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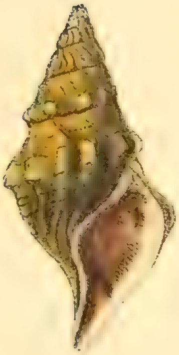

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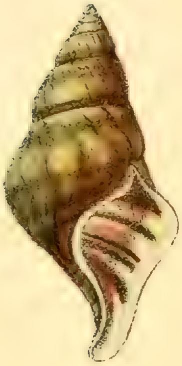

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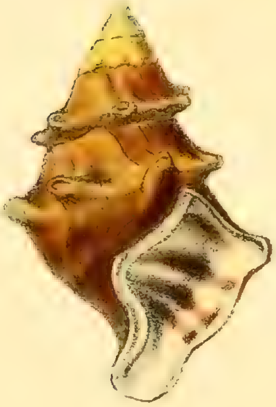

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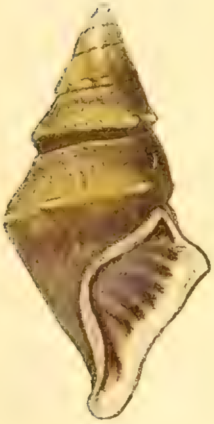

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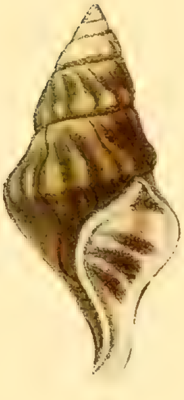

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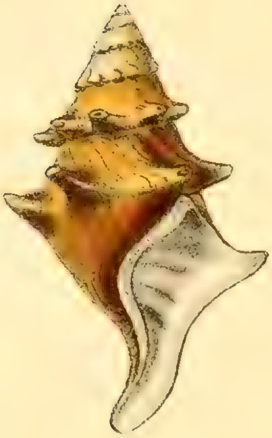

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Vincent Brooks, Imp.

IO.

Plate I.

Genus IO, *Lea*.

Testa fusiformis, solidiuscula, plerumque purpureo-fasciata, epidermide olivaceâ induta, anfractibus declivibus, ad peripheriam gibbosis et sæpissimè tuberculatis aut nodatis; columellâ plus minus tenuiter prolongatâ et contortâ, aperturâ basi sinuatâ vel canaliculatâ.

Shell fusiform, rather solid, generally purple-banded, covered with an olive epidermis, whorls sloping, gibbous, and mostly tubercled or noduled at the periphery; columella more or less thinly prolonged and twisted, aperture either sinuated or channelled at the base.

The very elegant fusiform convolution of the type of this genus, *Io spinosa*, is not unworthy of the beautiful priestess after whom it is named, but the fabled story of her wanderings on the banks of the Nile is not indicative of the habitat of the genus. With one single exception, *I. pagodula*, from Siam, the genus is purely American, and the typical species are all natives of rivers in the western State of Tennessee.

The genus *Io* is founded mainly on the character of the fusiform prolongation of the columella, by which the aperture is more or less channelled; and associated with these are a few intermediate forms, little more than sinuated, which pass into both *Anculotus* and the *Ceriphasia* division of *Melania*. In all the species the whorls slope to a more or less gibbous circumference at the periphery, which is either noduled or stoutly tuberculed. In the Siamese species the tubercles are replaced by open prickly scales, and, although claiming unquestionably a place in the genus, it has a very distinct typical character in specific detail.

Species 1. (Mus. Cuming.)

Io spirostoma. *Io testâ obeso-fusiformi, solidâ, flavescente-olivaceâ, obscurè purpureo-fasciatâ, anfractibus sex, concavo-declivibus, ad peripheriam subobtusè spinoso-tuberculatis; columellâ spiraliter contortâ.*

The spiral-mouth Io. Shell stoutly fusiform, solid, yellowish-olive, obscurely purple-banded, whorls six, concavely sloping, rather bluntly spine-tubercled at the periphery; columella spirally twisted.

Anthony, MS. in Mus. Cuming.

Hab. Tennessee, United States.

Of rather obtuse growth, characterized by the canaliculated extremity of the columella being twisted into a distorted spiral.

Species 2. (Mus. Cuming.)

Io verrucosa. *Io testâ fusiformi, virescente-olivaceâ, purpureo tinctâ et fasciatâ, anfractibus sex, declivibus, primis plicato-crenatis, cæteris ad peripheriam tumido-nodatis; columellâ attenuato-elongatâ.*

The warty Io. Shell fusiform, greenish-olive, purple-tinged and banded, whorls six, sloping, the first plicately crenulated, the rest tumidly noduled at the periphery; columella attenuately elongated.

Hab. Tennessee, United States.

In this species, which is of a greenish hue, the periphery of the whorls is furnished with a row of swollen wart-like nodules, the early whorls of the shell being rippled with small concentric folds.

Species 3. (Mus. Cuming.)

Io tenebrosa. *Io testâ fusiformi, olivaceâ, purpureo conspicuè fasciatâ, anfractibus sex, concavo-declivibus, ad peripheriam tumidis, et vix obsoletè nodatis; columellâ attenuato-elongatâ, subcontortâ.*

The dark Io. Shell fusiform, olive, conspicuously purple-banded, whorls six, concavely sloping, swollen and scarcely obsoletely noduled at the periphery; columella attenuately elongated, somewhat twisted.

Lea, Trans. Amer. Phil. Soc. v.

Hab. Tennessee, United States.

The periphery of the whorls in this species is distinguished by a swollen gouty appearance, and the shell is convoluted in a somewhat bent manner.

Species 4. (Mus. Cuming.)

Io brevis. *Io testâ obeso-fusiformi, solidâ, flavescente-olivaceâ, purpureo fasciatâ, anfractibus sex, concavo-declivibus, ad peripheriam validè spinoso-tuberculatis; columellâ abbreviato-contortâ, appressâ, canali latè effuso.*

The short Io. Shell stoutly fusiform, solid, yellowish-olive, purple-banded, whorls six, concavely sloping,

April, 1860.

strongly spine-tubercled at the periphery; columella shortly twisted, appressed, canal broadly effused.

ANTHONY, MS., in Mus. Cuming.

Hab. Tennessee, United States.

This and *I. spirostoma* are probably varieties of the same species. In one the channelled extension of the aperture and columella is broadly flatly effused, in the other it is twisted over into a spiral.

Species 5. (Mus. Cuming.)

IO FLUVIATILIS. *Io testâ pyramidali-fusiformi, solidissimâ, virescente-olivaceâ, purpureo tinctâ, anfractibus sex, plano-declivibus, ad peripheriam acutè angulato-carinatis, obtusè tuberculatis, tuberculis distantibus, fere obsoletis; columellâ subelongatâ, parum contortâ.*

THE RIVER IO. Shell pyramidally fusiform, very solid, greenish-olive, purple-stained, whorls six, flatly sloping, sharply angularly keeled at the periphery, bluntly tubercled, tubercles distant, almost obsolete; columella rather elongated, but little twisted.

Fusus fluviatilis, Say.

Io fluviatilis, Lea.

Hab. Tennessee, United States.

Of a straighter fusiform growth than the other species of this type, with the whorls slopingly compressed into a keeled angle. There are indications of tubercles at the periphery, but at very irregular intervals.

Species 6. (Mus. Cuming.)

IO FUSIFORMIS. *Io testâ fusiformi, virescente-olivaceâ, purpureo fasciatâ, anfractibus sex, concavo-declivibus, ad peripheriam tumidis et irregulariter plicato-nodulatis, nodis plus minus obsoletis; columellâ tenuiter elongatâ, subcontortâ.*

THE FUSIFORM IO. Shell fusiform, greenish-olive, purple-banded, whorls six, concavely sloping, swollen and irregularly plicately noduled at the periphery, nodules more or less obsolete; columella thinly elongated, slightly twisted.

LEA, Trans. Amer. Phil. Soc. vol. iv. pl. 15. f. 37.

Hab. Tennessee, United States.

Characterized by the same swollen gouty appearance and by the same bent manner of convolution as *I. tenebrosa;* indeed, I am unable to detect any specific difference in it.

Species 7. (Mus. Cuming.)

IO SPINOSA. *Io testâ symmetricè fusiformi, flavescente-olivaceâ, pallidè purpureo-fasciatâ, anfractibus sex, concavo-declivibus, ad peripheriam prominentè obliquè spinoso-tuberculatis; columellâ productâ, eleganter contortâ.*

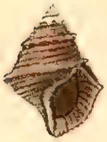
THE SPINED IO. Shell symmetrically fusiform, yellowish-olive, faintly purple-banded, whorls six, concavely sloping, prominently obliquely spine-tubercled at the periphery; columella produced, elegantly twisted.

LEA, Trans. American Phil. Soc. vol. v. pl. 19. f. 79.

Io inermis, Anthony.

Hab. Tennessee, Virginia, United States.

The type of the genus in its most symmetrical form of development, from which *I. spirostoma* and *brevis* are clumsy departures in what Mr. Darwin terms the "struggle for life."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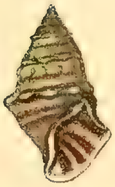
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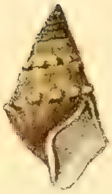
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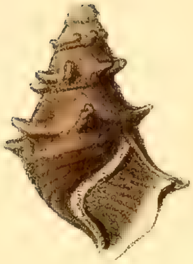
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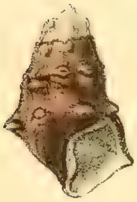
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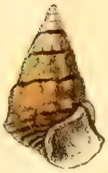
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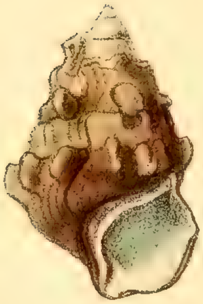
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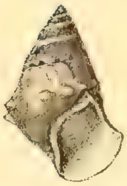
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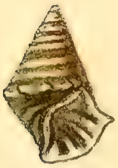
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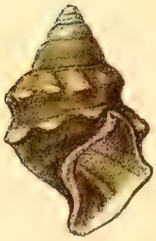
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Sowerby, del et lith.

Vincent Brooks, Imp.

IO.

Plate II.

Species 8. (Mus. Cuming.)

Io funiculata. *Io testâ abbreviato-fusiformi, nigrescente-olivaceâ, fusco intus quadrifasciatâ, anfractibus paucis, acutè declivibus, liris angustis, profundè excavatis, undique regulariter funiculatis, ad peripheriam prominentè carinatis; columellâ brevi, aperturâ vix canaliculatâ.*

The corded Io. Shell shortly fusiform, blackish-olive, four-banded within with brown, whorls few, sharply sloping, regularly corded throughout with narrow deeply excavated ridges, prominently keeled at the periphery, columella short; aperture scarcely channelled.

Hab. Alabama.

The species collected in this Plate are somewhat removed from the type of *Io*, and yet they have the basal channel, which is the main character of the genus, more or less developed. *Io funiculata* is of this series the most abnormal, being distinguished by a sculpture of ridges and grooves, sharp, as if turned by a lathe, very unlike, in its regularity, the plan of sculpture in any other species.

Species 9. (Fig. *a*, *b*, Mus. Cuming.)

Io Duttoniana. *Io testâ ovato-fusiformi, flavescente-olivaceâ, interdum purpureo-fasciatâ, anfractibus sex, concavo-declivibus, supra et ad peripheriam nodulis seriatim armatis; columellâ tenui, vix productâ, aperturâ ovatâ, latè vix canaliculatâ.*

Dutton's Io. Shell ovately fusiform, yellowish-olive, sometimes purple-banded, whorls six, concavely sloping, armed with a row of nodules above, and at the periphery, columella thin, scarcely produced; aperture ovate, broadly scarcely channelled.

Melania Duttoniana, Lea, Trans. American Phil. Soc. vol. viii. pl. 6. f. 54.

Hab. United States.

A rudely-formed shell of rather solid growth, encircled by a chain of nodules next the suture and round the periphery, but the nodules are scarcely developed until the last whorl. The basal channel is broad, but only slightly indicated.

Species 10. (Mus. Cuming.)

Io pagodula. *Io testâ pyramidali-conicâ, vix fusiformi, olivaceo-brunneâ, intus purpureo tinctâ et fasciatâ, anfractibus paucis, concavo-declivibus, ad peripheriam muricato-squamatis, squamis distantibus, erectis, prominentibus, anfractu ultimo ad basin obscurè lirato; columellâ arcuatâ et tenuiter contorto-productâ, purpureo-maculatâ.*

The little pagoda Io. Shell pyramidally conical, scarcely fusiform, olive-brown, stained within with purple, whorls concavely sloping, prickly scaled at the periphery, scales distant, erect, prominent, last whorl obscurely ridged at the base; columella arched, excavated and thinly twistedly produced, purple-spotted.

Melania pagodula, Gould, MS. in Mus. Cuming.

Hab. Salwen River, Tavoy, Siam.

The spur-like armature of this very characteristic form of *Io*, consists of erect prickly scales, not of solidified nodules as in the American type.

Species 11. (Mus. Cuming.)

Io armigera. *Io testâ obtusè pyramidali, subfusiformi, solidâ, flavescente-brunneâ, anfractibus concavo-declivibus, supernè rudè tuberosis, ad peripheriam rudè angulatis et tuberculatis; columellâ breviusculâ, aperturâ parvâ, subcanaliculatâ.*

The armed Io. Shell obtusely pyramidal, slightly fusiform, solid, yellowish-brown, whorls concavely sloping, rudely tuberous at the upper part, rudely angled and tubercled at the periphery; columella rather short, aperture small, slightly channelled.

Melania armigera, Say, Journ. Acad. Nat. Sci. Philadelphia, vol. ii. p. 178.

Hab. United States.

Characterized by a peculiar blunt irregular tuberous growth, solidly pyramidal, with the aperture much contracted.

Species 12. (Mus. Cuming.)

Io alveare. *Io testâ conoideâ, solidâ, olivaceâ, anfractibus octo, convexo-declivibus, primis obliquè rudè plicatis, cæteris lævigatis, anfractu ultimo interdum supernè plicato-nodulato, infernè angulato, ad angulum nodulato, deinde conspicuè spiraliter lirato; aperturâ parvâ, columellâ brevi, subcontorto-canaliculatâ.*

The bee-hive Io. Shell conoid, solid, olive, whorls eight, convexly sloping, the first obliquely rudely plicated, the rest smooth, last whorl sometimes plicately noduled at the upper part, angled at the lower, noduled at the angle, then conspicuously spirally ridged; aperture small, columella short, slightly twistedly channelled.

Melania alveare, Conrad.

Melania pernodosa, Lea.

Hab. Tennessee, United States.

The chief peculiarity of this species, which is of a particularly solid conical form, consists in the base being conspicuously circularly ridged whilst the rest of the shell is smooth.

Species 13. (Mus. Cuming.)

Io rota. *Io testâ globoso-turritâ, crassâ, ponderosâ, flavescente-olivaceâ, ad basin fusco unifasciatâ, anfractibus paucis rudè concavo-declivibus, substriatis, tuberculis grandibus obliquè compressis ad peripheriam cinctis; columellâ brevi, parum contortâ.*

The water-wheel Io. Shell globosely turreted, thick, ponderous, yellowish, encircled at the base by a brown band, olive, whorls few, rudely concavely sloping, faintly striated, encircled round the periphery with large obliquely compressed tubercles; columella short, but little twisted.

Hab. United States.

A solid globosely turreted shell, prominently armed with tubercles, which are compressed obliquely into fans, like the fans of a water-wheel.

Species 14. (Fig. *a*, *b*, Mus. Cuming.)

Io fasciolata. *Io testâ abbreviato-fusiformi, flavescente-viridi, fasciis angustis olivaceis cinctâ, anfractibus quinque ad sex, convexo-declivibus, primis lævibus, ultimo gibboso-angulato, ad peripheriam tuberculato, tuberculis distantibus; aperturâ trapeziformi, vix canaliculatâ.*

The banded Io. Shell shortly fusiform, yellowish-green, encircled with narrow bands of olive, whorls five to six, convexly sloping, the first smooth, the last gibbously angled, tubercled at the periphery, tubercles distant; aperture diamond-shaped, scarcely channelled.

Hab. United States.

Closely allied to *I. Duttoniana*, but less channelled, and more widely apertured, owing to the more gibbously angled circumference of the last whorl.

Species 15. (Mus. Cuming.)

Io robulina. *Io testâ obtusè fusiformi, virescente-olivaceâ, purpureo fasciatâ, anfractibus quinque ad sex, supra et infra angulatis, ad angulos validè rudè tuberculatis; columellâ tenuiter productâ, subcontortâ.*

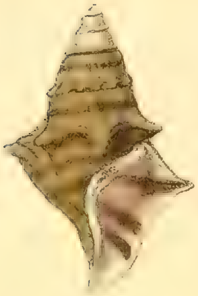
The oak Io. Shell obtusely fusiform, greenish-olive, banded with purple, whorls five to six, angled above and below, strongly rudely tubercled on each angle; columella thinly produced, slightly twisted.

Anthony, MS. in Mus. Cuming.

Hab. Tennessee, United States.

The most elongately channelled of this group of the genus, and the nearest approach in it to the typical form.

Io Pl. III.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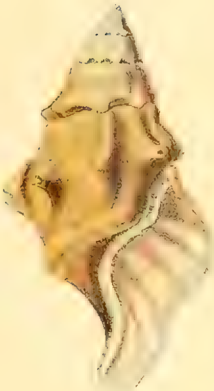
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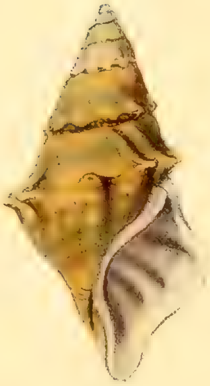
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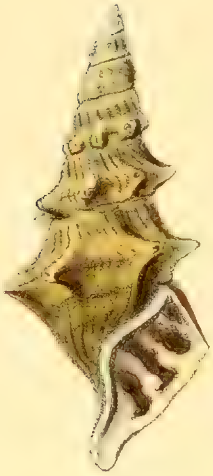
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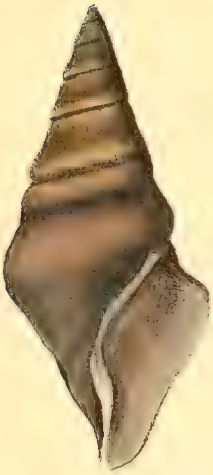
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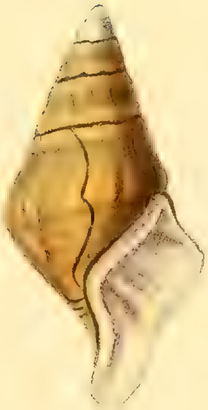
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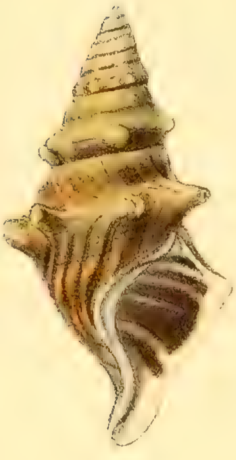
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del. et

IO.

PLATE III.

Species 16. (Mus. Anthony.)

IO RHOMBICA. *Io testâ rectè fusiformi, fulvo-olivaceâ, purpureo-fusco quadrifasciatâ, anfractibus concavo-declivibus, medio conspicuè angulatis et tuberculatis; columellâ parum contortâ, canali breviusculâ, attenuato-appressâ.*

THE RHOMBIC IO. Shell striately fusiform, fulvous-olive, encircled with four bands of purple-brown, whorls concavely sloping, conspicuously angled and tubercled in the middle; columella but little twisted, canal rather short, attenuately appressed.

ANTHONY, MS.

Hab. Southern United States.

The specimens described and figured in this Plate have been kindly forwarded to me for publication by Mr. Anthony, of Cincinnati, who possesses a most remarkable collection of the genus. "Many of the *Melanidæ* which I send you," he writes me word, "were collected personally by myself in 1853, when I made a pedestrian tour of over six hundred miles in our Southern States, and collected from every stream in my route. Of Ios, my assistant and myself secured eight thousand in all." The specimen which Mr. Anthony has here named *I. rhombica*, is of more regular growth than *I. spinosa*, with less twist in the columella, and the whorls are more concavely sloping.

Species 17. (Mus. Anthony.)

IO GIBBOSA. *Io testâ obeso-fusiformi, fulvâ, anfractibus rudè obliquè plicatis, medio obtusè tuberculatis, anfractu ultimo infernè spiraliter plicato-costato, costâ tumidâ, gibbosâ; columellâ arcuato-contortâ, canali latè effusâ.*

THE GIBBOUS IO. Shell stoutly fusiform, fulvous, whorls rudely obliquely plicated, obtusely tubercled in the middle, last whorl spirally plicately ribbed round the lower part, rib swollen, gibbous; columella arcuately twisted, canal broadly effused.

ANTHONY, MS.

Hab. Southern United States.

The gibbous ridge which encircles the lower portion of the body-whorl of this species, "is not," writes Mr. Anthony, "a mere accidental aberration. I have seen others like it."

Species 18. (Mus. Anthony.)

IO RECTA. *Io testâ subelongato-fusiformi, rectâ, solidiusculâ, fulvo-olivaceâ, anfractibus supernè concavo-declivibus, ad angulum conspicuè tuberculatis, tuberculis parviusculis; columellâ arcuato-contortâ, canali latè appressâ, aperturâ oblongâ, fauce rufo-purpureo tinctâ et fasciatâ.*

THE STRAIGHT IO. Shell somewhat elongately fusiform, straight, rather solid, fulvous-olive, whorls concavely sloping round the upper part, conspicuously tubercled at the angle, tubercles rather small; columella arcuately twisted, canal broadly appressed, aperture oblong, interior banded and stained with reddish purple.

ANTHONY, MS.

Hab. Tennessee, United States.

Having no means of comparison, I give these species solely on the authority of Mr. Anthony.

Species 19. (Fig. *a*, *b*, Mus. Cuming.)

IO TURRITA. *Io testâ elongato-turritâ, fusiformi, olivaceâ, purpureo obscurè fasciatâ, anfractibus numerosis, concavo-declivibus, medio validè spinoso-tuberculatis; columellâ attenuato-contortâ.*

THE TURRETED IO. Shell elongately turreted, fusiform, olive, obscurely banded with purple, whorls numerous, concavely sloping, strongly spinosely tubercled round the middle; columella attenuately twisted.

ANTHONY, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 69.

Hab. Tennessee, United States.

This species seems to possess naturally an elongately turreted growth, although the specimens figured show that it varies in elongation.

Species 20. (Mus. Anthony.)

IO LURIDA. *Io testâ rectè fusiformi, intus extusque lurido-purpureâ, anfractibus lævibus, inermibus, supernè concavo-impressis, medio tumido-gibbosis; columellâ vix contortâ.*

THE LURID IO. Shell straightly fusiform, lurid-purple within and without, whorls smooth, unarmed, concavely impressed round the upper part, tumidly gibbous round the middle; columella scarcely twisted.

Anthony, MS.

Hab. Southern United States.

A smooth straightly fusiform shell, of a dull lurid-purple colour throughout.

Species 21. (Mus. Anthony.)

Io inermis. *Io testâ obeso-fusiformi, fulvâ, intus obscurè purpureo fasciatâ, anfractibus lævibus, inermibus, supernè concavo-impressis, medio obtusè tumidis; columellâ arcuato-contortâ.*

The unarmed Io. Shell stoutly fusiform, fulvous, obscurely purple-banded within, whorls smooth, unarmed, concavely impressed round the upper part, obtusely swollen in the middle; columella arcuately twisted.

Anthony, Pro. Acad. Nat. Sci. Philadelphia, 1860, p. 70.

Hab. Tennessee, United States.

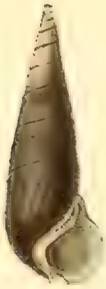
I quoted this species in Plate I. as a spineless variety of *I. spinosa*, but it appears to be distinct.

MONOGRAPH

OF THE GENUS

PIRENA.

> "Why art thou here,
> Come from the farthest steep of India?"
>
> *Shakspeare*



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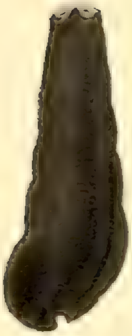

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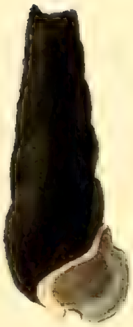

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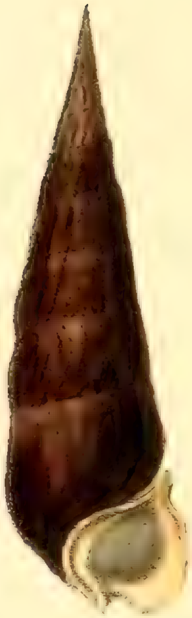

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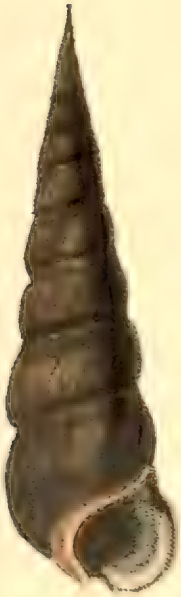

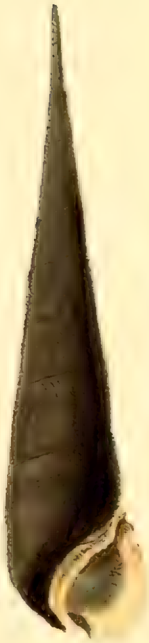

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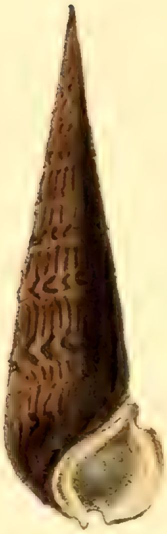

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PIRENA.

Plate I.

Genus PIRENA, *Lamarck.*

Testa subulata vel turrita, anfractibus nunc lævibus nunc costatis vel striatis. Apertura profundè bisinuata. Columella ad basin truncata, margine calloso-incurvo aut reflexo.

Shell subulate or turreted, whorls sometimes smooth, sometimes ribbed or striated. Aperture deeply bisinuated. Columella truncated at the base, with the margin callously incurved or laminated.

The genus *Pirena*, taken, agreeably with the plan of our work, in its Lamarckian sense, comprehends two very distinct groups; one represented by the old Linnæan type, *Strombus ater* (*Pirena terebralis*, Lamarck), the other represented by Lamarck's *Pirena spinosa*, and constituting Bowditch's genus *Melanatria.*

The *Pirenæ* proper are solid, elongately tapering shells, with only a single moderately sized lip-sinus, the second sinus being at the base, inhabiting rivers in India, Ceylon, the Molucca and Philippine Islands, and extending southward into New Caledonia.

The *Pirenæ* of the *Melanatria* type are inflated, tubercled species, having the outer lip broadly double-sinuated, with the columellar margin not callously incurved, but reflected in the form of a continuous flat lamina; and they are natives of Madagascar and Western Africa. An intermediate link between the groups is presented in *P. lingulata.*

The species of *Pirena*, it will be seen, are few, and the geographical distribution of the two groups is confined respectively to the localities above mentioned.

Species 1. (Mus. Cuming.)

Pirena nana. *Pir. testâ subcylindraceo-subulatâ, intensè atrâ, anfractibus decem ad undecim, concavo-planatis, obscurè minutè crispato-striatis; aperturâ parvâ, margine columellari profundè calloso-incurvo, labro externo pereffuso.*

The dwarf Pirena. Shell somewhat cylindrically subulate, shining-black, whorls ten to eleven, concavely flattened, obscurely minutely crisply striated; aperture small, columellar margin deeply callously incurved, outer lip much effused.

Hab. New Caledonia.

Of an uniform small size and subcylindrical outline, with a black, shining, horny exterior exhibiting here and there assemblages of minute, crisped striæ.

Species 2. (Fig. *a*, *b*, Mus. Cuming.)

Pirena Cantori. *Pir. testâ recto-elongatâ, olivaceo-nigrâ, anfractibus angustis, plano-convexis, obliquè contorto-striatis; aperturâ parvâ, brevi, margine columellari profundè calloso-incurvo, labro externo pereffuso.*

Cantor's Pirena. Shell straightly elongated, olive-black, whorls narrow, flatly convex, obliquely tortuously striated; aperture small, short, columellar margin deeply callously incurved, outer lip much effused.

Hab. Penang.

Distinguished by a less subulate form than the allied species of this genus, the whorls being narrower and the aperture proportionably shorter. It is named in manuscript in Mr. Cuming's collection after Dr. Cantor.

Species 3. (Fig. *a*, *b*, Mus. Cuming.)

Pirena picta. *Pir. testâ acutè cylindraceo-subulatâ, tumidulâ, nitente-atrâ, sordidè luteo profusè undulatâ et vittatâ, anfractibus septemdecim ad octodecim, convexo-planatis, obliquè contorto-striatis; aperturâ mediocri, margine columellari calloso-incurvo.*

The painted Pirena. Shell sharply cylindrically subulate, somewhat swollen, shining-black, profusely waved and filleted with dingy yellow, whorls seventeen to eighteen, convexly flattened, obliquely tortuously striated; aperture moderate, columellar margin callously incurved.

Hab. Ceylon.

This species, hitherto confounded with *P. atra*, should, I think, be distinguished. It is of more swollen proportions, fewer-whorled, void of ridged striæ at the base, and exhibits a more decided variegation of yellow painting.

Species 4. (Mus. Cuming.)

Pirena pagodus. *Pir. testâ subulato-turritâ, nitente-atrâ, obscurè obliquè luteo-strigatâ, anfractibus quatuordecim ad quindecim, declivi-convexis, infernè abruptè angulatis, obliquè substriatis; aperturâ mediocri, margine columellari calloso-incurvo.*

November, 1859.

THE PAGODA PIRENA. Shell subulately turreted, shining-black, obscurely obliquely yellow-streaked, whorls fourteen to fifteen, slopingly convex, abruptly angled, faintly obliquely striated; aperture moderate, columellar margin callously incurved.

Hab. —— ?

Further researches will alone show whether the angulation of the lower part of the whorls of this species be a permanent specific character.

Species 5. (Mus. Cuming.)

PIRENA ATRA. *Pir. testâ acutè elongato-tereti, intensè atrâ, obscurè minutè luteo-lentiginosâ, anfractibus viginti aut pluribus, concavo-planatis, dense obliquè minutissimè striatis; aperturâ parvâ, margine columellari calloso-incurvo.*

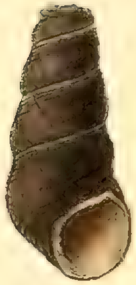
THE BLACK PIRENA. Shell sharply elongately tapering, intense black, obscurely minutely yellow-mottled, whorls twenty or more, concavely flattened, densely minutely wrinkle-striated; aperture small, columellar margin callously incurved.

Strombus ater, Linnæus, Syst. Nat. p. 1213.
Nerita atra, Müller.
Strombus atro-purpureus, Schröter.
Strombus dealbatus, Gmelin.
Buccinum acicula, Gmelin.
Cerithium atrum, Bruguière.
Cerithium fluviatile, Férussac.
Pirena terebralis, Lamarck.
Melanopsis atra, Sowerby.

Hab. Philippines and Moluccas.

In this form of *Pirena*, which we take to be the original type of the genus, the shell, composed of a greater number of whorls, is more elongately tapering than its congeners, and the sutures are less defined.

Pirena Pl. II.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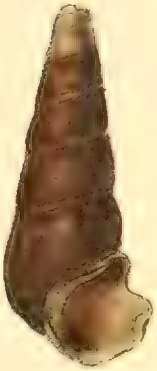
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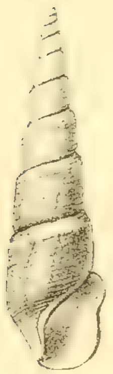
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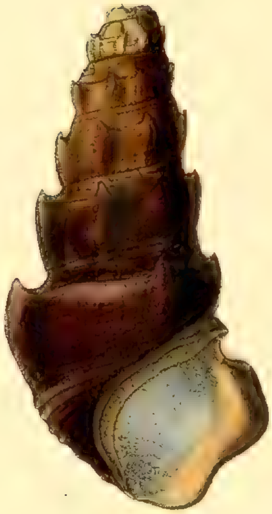
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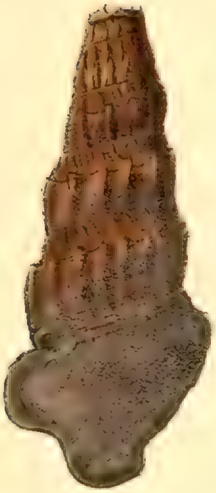
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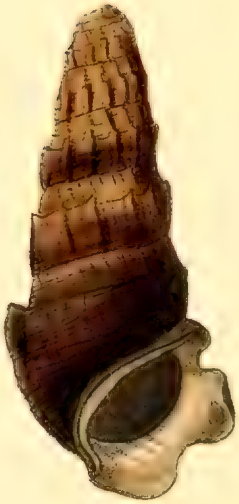
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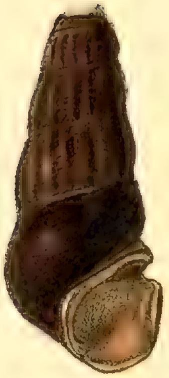
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PIRENA.

Plate II.

Species 6. (Mus. Cuming.)

Pirena maura. *Pir. testâ cylindraceo-oblongâ, anthracinâ, anfractibus quatuor, deinde decollatâ, subangustis, rotundatis, liris tenuibus confertis, senis, supernè cingulatis; aperturâ parvâ, sinubus ferè obsoletis.*

The negro Pirena. Shell cylindrically oblong, coal-black, whorls four, then decollated, rather narrow, rounded, encircled with about half-a-dozen close-set ridges at the upper part; aperture small, notches almost obsolete.

Hab. West Africa.

A solid blue-black shell, decollated in all the specimens I have seen, so as to leave but four whorls, which are encircled round the upper part with about half-a-dozen fine corded ridges.

Species 7. (Mus. Cuming.)

Pirena lingulata. *Pir. testâ obeso-subulatâ, solidâ, castaneo-nigrâ, ad suturas ferrugineâ, anfractibus convexo-planatis, lævibus; aperturâ parvâ, sinu superiori lato, profundo, labro attenuato-effuso, linguæformi.*

The tongued Pirena. Shell stoutly subulate, solid, chestnut-black, rusty at the sutures, whorls convexly flattened, smooth; aperture small, upper sinus broad and deep, lip attenuately effused, tongue-shaped.

Hab. West Africa.

A smooth chestnut-rust shell, agreeing in this respect with the *Melaniæ* of the same district. The upper sinus of the aperture is unusually large, and the lip being unusually attenuately effused, protrudes like a tongue.

Fig. 8. (Mus. Lea.)

This uncoloured figure, copied from Mr. Lea's *Basistoma Edwardsii*, belongs more properly to a subdivision of *Melania*, distinguished by Mr. Swainson with the title of *Hemisinus*, and will be described with that group.

Species 9. (Mus. Cuming.)

Pirena spinosa. *Pir. testâ turritâ, subventricosâ, intensè brunneâ, nitente, anfractibus quinque, deinde decollatâ, supernè concavo-canaliculatis et striatis, deinde lævibus, ad angulum tuberculis acutis muricato-squamatis distantibus conspicuè coronatis, anfractu ultimo liris validis quatuor ad quinque basi cingulato; aperturâ subamplâ, sinu lato, profundo, labro attenuato-effuso, margine columellari laminari-reflexo, rubido.*

The spined Pirena. Shell turreted, somewhat ventricose, deep-brown, shining, whorls five, then decollated, concavely channelled and striated round the upper part, then smooth, prominently coronated on the angle with distant, sharp, prickly-scaled tubercles, last whorl encircled with four to five strong ridges at the base; aperture rather large, sinuses broad and deep, lip attenuately effused, columellar margin laminarly reflected, tinged with red.

Lamarck, Anim. sans vert. vol. viii. p. 500.

Pirena Madagascariensis, Enc. Méth.

Melanopsis spinosa, Deshayes.

Hab. Madagascar.

The tubercles of this fine species are remarkably cuspid, each being surmounted with a minute, sharply beaked, horny scale, such as in *Melania setosa* is erected behind the bristled lashes.

Species 10. (Fig. *a*, *b*, Mus. Cuming.)

Pirena fluminea. *Pir. testâ turriculatâ, ferrugineo-fuscâ, anfractibus quinque, deinde decollatâ, striis elevatis undique densè funiculatis, supernè concavo-subexcavatis, longitudinaliter plicato-liratis, liris ad angulum muricato-squamatis; aperturâ subamplâ, profundè sinuatâ, margine columellari laminari-reflexo, rubido.*

The river Pirena. Shell turriculated, rusty-brown, whorls five, then decollated, corded throughout with close-set raised striæ, slightly concavely excavated round the upper part, longitudinally plicately ridged, ridges prickly-scaled on the angle; aperture rather large, deeply sinuated, columellar margin laminarly reflected, tinged with red.

Gmelin, Syst. Nat. p. 3603.

Hab. Madagascar.

Probably a variety of the preceding species, though densely sculptured throughout with raised striæ, with the prickly ridges less defined and more frequent.

Species 11. (Mus. Cuming.)

PIRENA PLICATA. *Pir. testâ oblongo-turriculatâ, ferrugineo-brunneâ, anfractibus quinque, deinde decollatâ, striis elevatis undique densè funiculatis, longitudinaliter plicato-costatis, anfractûs ultimi costis obsoletis; aperturâ rotundatâ, mediocriter sinuatâ.*

THE PLAITED PIRENA. Shell oblong-turriculated, rust-brown, whorls five, then decollated, densely corded throughout with raised striæ, longitudinally plicately ribbed, ribs of the last whorl obsolete; aperture rounded, moderately sinuated.

Hab. West Africa.

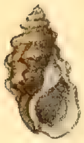
The last three species pass gradually into each other, but taken separately they are very distinct. *P. spinosa* is a light subinflated shell, smooth and shining, with very prominent prickly tubercles. In *P. fluminea* the shell is less inflated, the prickly tubercles resolve into numerous prickly ridges, and the shell is corded throughout with raised striæ. In *P. plicata* the shell is a compact solid mass, still corded throughout with raised striæ, but having in the place of prickly edges a series of concentric ribs devoid of prickles, and the sinuated clefts of the aperture are only feebly developed.

MONOGRAPH

OF THE GENUS

MELANOPSIS.

For that dye is on me
Which makes my whitest part black."
Shakspeare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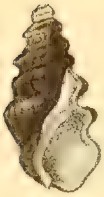
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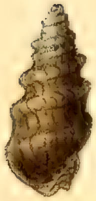
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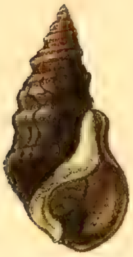
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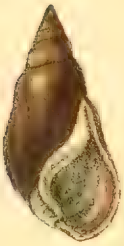
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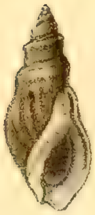
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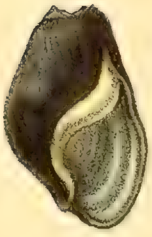
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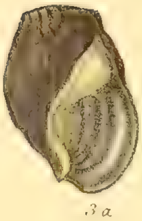
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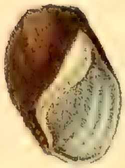
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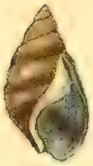
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Sowerby, del et Lith.

Vincent Brooks, Imp

MELANOPSIS.

PLATE I.

Genus MELANOPSIS, *Lamarck*.

Testa conico-turrita, solida, epidermide luteâ aut intensè castaneâ indutâ, anfractibus quatuor ad septem, plerumque lævibus; columella arcuata, supernè crassè callosa, ad basin brevitruncata, interdum subcontorta. Operculum corneum, parvum.

Shell conically turreted, solid, covered with a yellowish or dark-chestnut epidermis, whorls four to seven, generally smooth; columella arched, thickly callous at the upper part, shortly truncated at the base, sometimes a little twisted. Operculum horny, small.

Melanopsis divested of *Pirena* and *Hemisinus*, is a very natural genus. The species are limited to ten, and their geographical range is limited. The chief characteristics are the presence of a thick callosity on the upper part of the columella, and an abrupt truncature of its lower extremity. Along with these peculiarities the species are of a conically turreted form, of solid growth, not exceeding seven whorls, and the genus embraces three very distinct local types.

In the rivers of New Zealand have been collected two species of which the shell has a rather globose form of convolution, and the truncated extremity of the columella is slightly twisted; and there is a peculiar *Melampus*-like form from New Caledonia. The other species are south European and Asiatic, the home of this type being in the rivers of Spain, and of Syria and the islands of the Levant. Two species carry the genus into Persia, but they are obviously small representatives of the European type.

Species 1. (Fig. *a* and *f*, Mus. V. d. Busch. Fig. *b*, *c*, *d*, *e*, Mus. Cuming.)

MELANOPSIS DUFOURII. *Mel. testâ ovato-conicâ, solidâ, lævigatâ, griseo-lutescente, castaneo strigatâ, plerumque intensè castaneâ, anfractibus septem, declivi-gibbosis, spiraliter impresso-concavis, sæpè validè obtusè bicarinatis, anfractu ultimo multo majore; aperturâ ovatâ, parviusculâ, supernè angustè sinuatâ, columellâ supernè crassè callosâ, deinde subprofundè excavatâ.*

DUFOUR'S MELANOPSIS. Shell ovately conical, solid, smooth, greyish-yellow, streaked with chestnut, generally very dark chestnut, whorls seven, slopingly gibbous, spirally impressly concave, often strongly obtusely keeled, last whorl much the larger; aperture ovate, rather small, narrowly sinuated at the upper part, columella thickly callous at the upper part, then rather deeply excavated.

FÉRUSSAC, Monog. Mém. de la Soc. d'Hist. Nat. de Paris, vol. i. p. 153. pl. 8. f. 5.

Buccina Maroccana, pars, Chemnitz.

Hab. Spain and the Morea.

So variable is this species that we have considered it absolutely necessary to give figures of five specimens. It will be seen that they are all of a sharply conical form, and have a marked tendency to enlarge and become gibbous towards the base. Often the most prominent character is the presence of two widely-separated, strong, obtuse keels, winding about the shell; but it is one of the most inconstant. In some specimens it is scarcely traceable.

Species 2. (Fig. *a*, *b*, Mus. Cuming.)

MELANOPSIS ZELANDICA. *Mel. testâ ovatâ, vel oblongo-ovatâ, crassiusculâ, olivaceâ, interdum castaneo unifasciatâ, anfractibus quatuor, lævigatis, declivi-gibbosis, basin versus subcontractis, primis tribus perparvis; aperturâ ovatâ, infernè subeffusâ, columellâ supernè crassè callosâ, deinde excavatâ, ad basin contorto-recurvâ.*

THE NEW ZEALAND MELANOPSIS. Shell ovate or oblong-ovate, rather thick, olive, sometimes encircled with a chestnut band, whorls four, smooth, slopingly gibbous, somewhat contracted towards the base, the first three whorls very small; aperture ovate, rather effused at the lower part, columella thickly callous at the upper part, then excavated, contractedly recurved at the base.

GOULD, MS. Mus. Cuming.

Hab. New Zealand, Swainson.

This interesting New Zealand *Melanopsis*, sent to England a few years since by Mr. Swainson, is of quite a distinct type, as might be expected, from the European species; the base is more effused, and the columella has a very characteristic recurved twist at the base.

Species 3. (Fig. *a*, *b*, Mus. Cuming.)

MELANOPSIS STRANGEI. *Mel. testâ subgloboso-ovatâ,*

February, 1860.

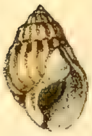
crassiusculâ, olivaceâ, anfractibus perpaucis, declivi-ventricosis, longitudinaliter rugosis et malleatis, partim obsoletè nodulosis; aperturâ ovatâ, infernè subeffusâ, columellâ supernè callosâ, deinde excavatâ, ad basin concavo-contortâ, parum reflexâ.

STRANGE'S MELANOPSIS. Shell somewhat globosely ovate, rather thick, olive, whorls very few, slopingly ventricose, longitudinally wrinkled and malleated, partially obsoletely noduled; aperture ovate, slightly effused at the lower part, columella callous at the upper part, then excavated, concavely twisted at the base, but little reflected.

Hab. New Zealand; Strange.

From the same locality as the preceding species, and of the same peculiar type. It has a different contour, with a less twisted columella, and is distinguished externally by a very characteristic, subnodose, wrinkled and malleated sculpture. It was sent to England by the unfortunate Mr. Strange, one of our very best collectors in the Australian seas, who lost his life in the service.

Melanopsis Pl. II.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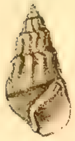
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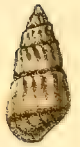
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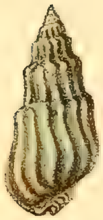
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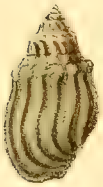
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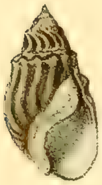
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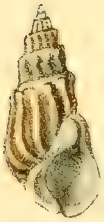
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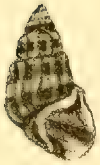
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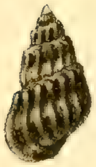
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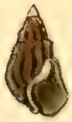
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Vincent Brooks, Imp.

MELANOPSIS.

Plate II.

Species 4. (Fig. *a* to *h*, Mus. Cuming.)

Melanopsis cariosa. *Mel. testâ ovato-oblongâ, solidâ, castaneâ aut luteâ, aut luteâ purpureo-castaneo fasciatâ, spirâ nunc brevi, nunc productâ, anfractibus septem, supernè angulatis, et interdum rudè carinatis, longitudinaliter validè corrugato-costatis, costis ad angulum nodosis; aperturâ parviusculâ, columellâ supernè callosâ, medio calloso-excavatâ.*

The worm-eaten Melanopsis. Shell ovately oblong, solid, chestnut or yellow, or yellow banded with purple-chestnut, spire sometimes short, sometimes produced, whorls seven, angled and sometimes rudely keeled round the upper part, longitudinally strongly wrinkle-ribbed, ribs noduled at the angle; aperture rather small, columella callous at the upper part, callously excavated in the middle.

Murex cariosus, Linnæus, Syst. Nat. p. 1220.
Buccina Maroccana, pars, Chemnitz.
Melanopsis costata, Férussac.
Melanopsis costellata, Férussac.
Melanopsis Jordanica, Roth.

Hab. Spain.

As in the case of *M. Dufourii*, from the same locality, this is an extremely variable species. In Fig. 1 *a* the shell has a short *Cyllene*-like form, and is of a pale-yellowish colour. In Fig. 1 *b*, *c*, and 1 *d*, *e*, the shell is of the same colour, that is to say, white, with a yellowish-horny epidermis; but in one it has a conically produced spire, while in the other the spire is short, and the longitudinal ribs are pushed by its immersion into a swollen keel. In Fig. 1 *f*, *g*, the shell is conspicuously banded with purple-brown; and in Fig. 1 *h*, it is slenderly pyramidal, and of a uniform dark-chestnut. All these varieties it is necessary to study in order to understand the species.

Species 5. (Fig. *a*, *b*, Mus. Cuming.)

Melanopsis Parreyssii. *Mel. testâ oblongâ, subturritâ, tenuiculâ, albidâ, fasciâ rufâ angustâ medio cingulatâ, anfractibus sex ad septem, supernè subangulatis, longitudinaliter costatis, costis ad angulum obtusè nodulatis, infernè evanidis; aperturâ ovatâ, parviusculâ, columellâ modicè callosâ, supra et infra rufo tinctâ.*

Parreyss's Melanopsis. Shell oblong, subturreted, rather thin, whitish, encircled round the middle with a narrow red band, whorls six to seven, slightly angled at the upper part, longitudinally ribbed, ribs obtusely noduled at the angle, fading away below; aperture ovate, rather small, columella moderately callous, stained with red above and below.

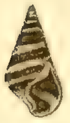
Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. ii. p. 376. pl. 4. f. 15.

Hab. Senegal. Hungary; Parreyss.

A shell of much lighter substance than the preceding species, and of more regular growth. Round the middle of the last whorl it is encircled by a characteristic narrow red band; and the columella, which has no particular callosity on the upper part, is stained above and at the base with the same colour. Dr. Von dem Busch, on the authority of Parreyss, quotes Hungary as its habitat. Mr. Cuming's specimen is from Senegal.

February, 1860.

Melanopsis Pl. III.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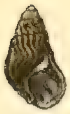
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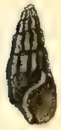
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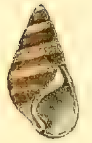
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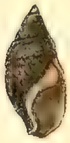
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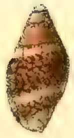
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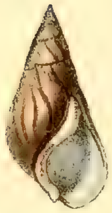
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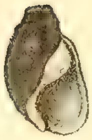
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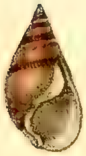
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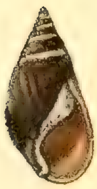
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MELANOPSIS.

Plate III.

Species 6. (Fig. *a*, *b*, Mus. V. d. Busch.)

Melanopsis variabilis. *Mel. testâ fusiformi-turritâ, modicè solidâ, fulvescente, livido-purpureo plus minus fasciatâ, anfractibus quinque ad sex, declivi-gibbosiusculis, interdum longitudinaliter rudè striatis; aperturâ ovatâ, columellâ excavatâ, supernè subcallosâ, infernè tenuè contortâ.*

The variable Melanopsis. Shell fusiformly turreted, moderately solid, fulvous, more or less banded with livid-purple, whorls five to six, slopingly gibbous, sometimes longitudinally rudely striated; aperture ovate, columella excavated, slightly callous at the upper part, thinly twisted at the lower.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. ii. p. 175. pl. 4. f. 7. n. 10 (not f. 8).

Hab. Schiraz and Persepolis, Persia.

Very closely allied to some varieties of *M. prærosa*, but Dr. Busch's specimens have a characteristic lightness of structure and livid-banded colouring.

Species 7. (Mus. V. d. Busch.)

Melanopsis Kotschyi. *Mel. testâ oblongo-conicâ, solidiusculâ, olivaceo-corneâ, anfractibus quinque ad sex, supernè concavo-declivibus, deinde rotundatis, undique longitudinaliter corrugato-liratis; aperturâ parviusculâ, columellâ calloso-excavatâ.*

Kotschy's Melanopsis. Shell oblong-conical, rather solid, olive-horny, whorls five to six, concavely sloping at the upper part, then rounded, longitudinally wrinkle-ridged throughout; aperture rather small, columella callously excavated.

Von dem Busch, Philippi, Abbild. und Besch. Conch. vol. ii. p. 175. pl. 4. f. 11.

Hab. Persepolis, Persia; Kotschy.

This is apparently the Persian representative of the Spanish *M. cariosa*, in the same manner as the preceding species is the Persian representative of the Spanish *M. prærosa*. Both the Asiatic types are smaller than the European, and the genus is not found any further south on this side of the equator. More observations are needed on the fresh-water conchology of this district before very definite opinions can be formed of the value either of *M. variabilis* or *Kotschyi*.

Species 8. (Mus. Cuming.)

Melanopsis Saulcyi. *Mel. testâ oblongo-turritâ, solidiusculâ, purpureo-nigrâ, anfractibus quinque ad sex, supernè obliquè brevicostatis, costis obsoletè nodulatis; aperturâ subangustè ovatâ, columellâ supernè callosâ, deinde excavatâ, infernè tenuè contortâ.*

Saulcy's Melanopsis. Shell oblong, turreted, rather solid, purple-black, whorls five to six, obliquely shortly ribbed at the upper part, ribs obsoletely noduled; aperture rather narrowly ovate, columella slightly callous at the upper part, then excavated, thinly twisted at the lower.

Bourguignat, MS. in Mus. Cuming.

Hab. Syria.

A slenderly turreted species, of a dark purple-black colour, obliquely ribbed round the upper part of the whorls, smooth round the lower; and the columella is more thinly twisted at the base than in the European forms.

Species 9. (Fig. *a*, *b*, Mus. Cuming.)

Melanopsis lentiginosa. *Mel. testâ ovatâ, utrinque attenuatâ, solidâ, nigrescente-olivaceo fasciatâ, punctis lutescente-albidis profusè lentiginosâ, anfractibus quinque, supernè concavo-declivibus, deinde tumidis, infernè contractis; aperturâ oblongo-ovatâ, supernè angustè sinuatâ, columellâ supra crassè callosâ, infra curvatâ.*

The freckled Melanopsis. Shell ovate, attenuated at each end, solid, banded with blackish-olive, profusely freckled with yellowish-white dots, whorls five, concavely sloping round the upper part, then swollen, contracted at the lower; aperture oblong-ovate, narrowly sinuated at the upper part, columella thickly callous above, curved below.

Hab. New Caledonia.

Of a different type from any of the preceding species, with a somewhat *Melampus*-like aspect, banded with blackish-olive on a yellowish ground, the bands being profusely freckled with the ground colour. It is quite unlike the other southern species, *M. Zelandica* and *Strangei*.

Species 10. (Fig. *a*, *c*, *d*, Mus. Cuming,
Fig. *b*, Mus. V. d. Busch.)

Melanopsis prærosa. *Mel. testâ ovato-conicâ, solidâ,* *lævigatâ, castaneo-fuscâ, suturis albidis, anfractibus sex, declivi-convexis, deinde gibbosiusculis; aperturâ subangustè ovatâ, supernè sinuatâ, columellâ supra densè callosâ, infra curvatâ.*

THE GNAWN MELANOPSIS. Shell ovately conical, solid, smooth, chestnut-brown, sutures whitish, whorls six, slopingly convex, then rather gibbous; aperture rather narrowly ovate, sinuated at the upper part, columella thickly callous above, curved below.

Buccinum prærosum, Linnæus, Syst. Nat. p. 1203.
Melania buccinoidea, Olivier.
Melanopsis buccinoidea, Férussac.
Melanopsis lævigata, Lamarck.
Melanopsis fusiformis, Sowerby.

Hab. Turkey, Asia Minor, Algeria.

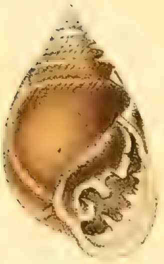
The only noticeable variation in this species occurs in a form represented at Fig. 10 *b*, in which the whorls are contracted, and swell into an obtuse ridge round the upper part, and the shell is generally of a darker olive-colour.

MONOGRAPH

OF THE GENUS

SCARABUS.

> "Bog and marsh and fen
> Are only poor to undiscerning men.
> Here may the nice and curious eye explore
> How Nature's hand adorns the rushy moor;
> Beauties are these that from the view retire,
> But will repay the attention they require."
>
> *Crabbe.*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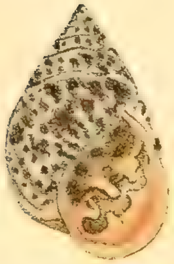
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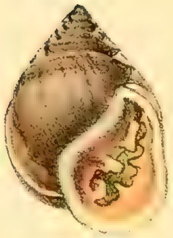
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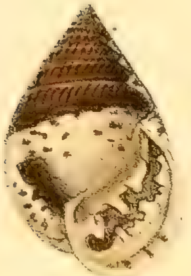
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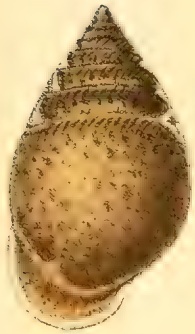
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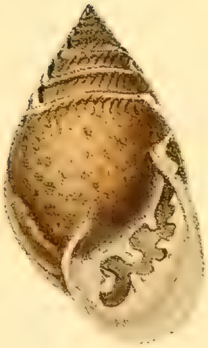
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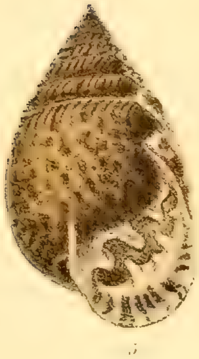
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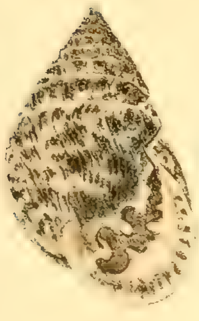
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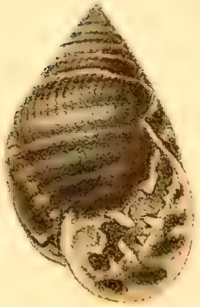
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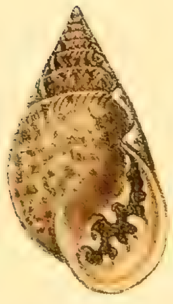
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Vincent Brooks, Imp

SCARABUS.

Plate I.

Genus SCARABUS, *De Montford.*

Testa ovata, solidiuscula, fulvescente-alba, castaneo aut purpureo-castaneo nebuloso-maculata aut fasciata, spirâ plus minus obtusè pyramidali, anfractibus septem ad decem, convexis, supernè plicato-rugatis, utrinque appresso-varicosis, varicibus plerumque albis, anfractu ultimo interdum latè abruptè angulato; aperturâ nunc rotundato- nunc subquadrato-ovatâ, utrinque validissimè dentatâ, dentibus columellaribus tribus, rudibus, sæpè contortis, dentibus oppositis tribus, minus irregularibus, minoribus intervenientibus, labro conspicuè concavo-effuso.

Shell ovate, rather solid, fulvous-white, nebulously spotted or banded with chestnut or purple-chestnut, spire more or less obtusely pyramidal, whorls seven to ten, convex, plicately wrinkled round the upper part, appressly varicose on each side, varices mostly white, last whorl sometimes broadly abruptly angled; aperture now rotundately, now somewhat squarely ovate, very strongly toothed on both sides, columellar teeth three, rude, often twisted, opposite teeth three, less irregular, with smaller teeth intervening, lip conspicuously concavely effused.

The genus *Scarabus* is founded on the well-known *Helix scarabæus* of Linnæus, a characteristic form of land snail, of which nearly thirty species have been now collected. They are peculiar to the islands of the Eastern and Australian Archipelagoes, and inhabit dense woods in damp places, the animal partaking more of the nature of *Auricula* than of *Helix*. The generic peculiarities of *Scarabus* are remarkably uniform. The shell is formed on the plan of a compact closely convoluted oval, of from seven to ten whorls, rising into a more or less obtuse pyramid, and it is distinguished by two rather conspicuously developed features; one is, that a row of flattened varices is formed down each side of the shell, and the other consists in the aperture being almost closed in with strong wart-like teeth. The *Scarabi* are also distinguished by a great uniformity of colour, fulvous-white, mottled with chestnut, which passes, in some instances, into purple bands. They have no representative types in the new world, unless it be in the Brazilian *Helices* and *Bulimi* with toothed apertures, but in the shells of those there are no varices. The *Scarabi* leave the upper extremity of the marginal lip resting on the body-whorl at every half turn, like the *Ranellæ*, but it is only a flattened deposit. None of the species show any rudiments of fronds or spines.

Species 1. (Mus. Cuming.)

Scarabus Celebensis. *Scar. testâ subpyramidali-ovatâ, fulvo-castaneâ, varicibus fulvo-luteis, anfractibus novem ad decem, læviusculis; aperturâ ovatâ, livido-fulvâ.*

The Celebes Scarabus. Shell somewhat pyramidally ovate, fulvous-chestnut, varices fulvous-yellow, whorls nine to ten, rather smooth; aperture ovate, livid-fulvous.

Pythia Celebensis, Pfeiffer, Pro. Zool. Soc. 1854, p. 299.

Hab. Celebes. .

Comparatively smooth, and of a uniform fulvous-chestnut colour, with the aperture peculiarly livid.

Species 2. (Fig. *a*, *b*, Mus. Cuming.)

Scarabus lekithostoma. *Scar. testâ subabbreviato-ovatâ, albidâ, castaneo maculatâ et nebulatâ, interdum omnino fulvo-castaneâ, varicibus albis, anfractibus septem ad octo, lævibus; aperturâ ovatâ, conspicuè luteo-rufâ.*

The yolk-mouth Scarabus. Shell rather shortly ovate, whitish, blotched and clouded with chestnut, sometimes altogether fulvous-chestnut, varices white, whorls seven to eight, smooth; aperture ovate, conspicuously yellow-ribbed.

Reeve, Ann. and Mag. Nat. Hist. 1842, vol. ix. p. 220.

Hab. ——?

Conspicuously distinguished by the aperture being stained with yellow-red, resembling the yolk of an egg in colour.

Species 3. (Mus. Cuming.)

Scarabus castaneus. *Scar. testâ ovatâ, supra intensè castaneâ, infra albidâ, castaneo promiscuè marmoratâ, varicibus parvis, albis, anfractibus octo ad novem, lævibus; aperturâ ovatâ, sordidè albâ.*

The chestnut Scarabus. Shell ovate, dark chestnut at the upper part, whitish below, promiscuously marbled with chestnut, varices small, white, whorls eight to nine, smooth; aperture ovate, dull-white.

Lesson, Zool. Voy. de la Coquille, p. 336. pl. 10. f. 7.

November, 1860.

Hab. Sibonga, Island of Zebu, Philippines (in the woods); Cuming.

Peculiarly marbled with chestnut upon a white ground round the body-whorl, while the spire is altogether chestnut.

Species 4. (Fig. *a*, *b*, Mus. Cuming.)

Scarabus albovaricosa. *Scar. testâ oblongo-ovatâ, livido-castaneâ, fusco obscurè lentiginosâ, varicibus conspicuè albis, anfractibus novem ad decem, læviusculis; aperturâ ovatâ, subcompressâ.*

The white-varicose Scarabus. Shell oblong-ovate, livid-chestnut, obscurely freckled with brown, varices conspicuously white, whorls nine to ten, rather smooth; aperture ovate, rather compressed.

Pythia albovaricosa, Pfeiffer, Zeits. für Malac. 1853, p. 190.
Hab. Celebes.

A bold species, obscurely brown-freckled, with the varices conspicuously white, shaded with dark chestnut.

Species 5. (Mus. Cuming.)

Scarabus scarabæus. *Scar. testâ ovatâ, undique castaneo marmoratâ et nebulatâ, varicibus subindistinctis, anfractibus novem ad decem, obscurè plicato-striatis; aperturâ ovatâ, castaneo-lineatâ.*

The beetle Scarabus. Shell ovate, marbled and clouded throughout with chestnut-brown, varices somewhat indistinct, whorls nine to ten, obscurely plicately striated; aperture ovate, lineated with chestnut.

Helix scarabæus, Linnæus, Syst. Nat. p. 768.
Helix pythia, Müller.
Auricula scarabæus, Lamarck.
Scarabus imbrium, Férussac.
Hab. Moluccas.

This is supposed to be the Linnæan type of the genus. It is of a less oblong form than the preceding species, and has the aperture stained with linear chestnut blotches, while the varices are somewhat obscure.

Species 6. (Mus. Cuming.)

Scarabus Reeveanus. *Scar. testâ sublatè ovatâ, albidâ, nigricante-castaneo sparsim marmoratâ, varicibus albis, anfractibus novem ad decem, undique validè plicato-striatis; aperturâ subobliquè ovatâ, castaneo punctatâ.*

Reeve's Scarabus. Shell rather broadly ovate, white, sparingly marbled with blackish-chestnut, varices white, whorls nine to ten, strongly plicately striated throughout; aperture rather obliquely ovate, dotted with chestnut.

Pythia Reeveana, Pfeiffer, Zeits. für Malac. 1853, p. 190.
Hab.

Distinguished chiefly by its more sparse marbling and strongly developed plicated striæ.

Species 7. (Mus. Cuming.)

Scarabus pollex. *Scar. testâ sublatè ovatâ, purpureo-castaneâ, obscurè multifasciatâ, varicibus indistinctis, anfractibus octo ad novem, læviusculis; aperturâ ovatâ, purpureo-castaneo intensè maculatâ.*

The thumb Scarabus. Shell rather broadly ovate, purple-chestnut, obscurely many-banded, varices indistinct, whorls eight to nine, nearly smooth; aperture ovate, darkly blotched with purple-chestnut.

Hinds, Moll. Voy. Sulphur. pl. 16. f. 9, 10.
Scarabus zonata, Hombron and Jacquinot.
Hab. Feejee Islands.

A bold, well-marked species, of a dull purplish-brown hue, obscurely banded throughout.

Species 8. (Mus. Cuming.)

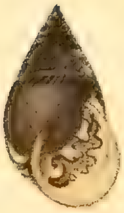
Scarabus chalcostoma. *Scar. testâ elongato-ovatâ, subpyramidali, rufo-castaneo pallidè nebulatâ, varicibus albidis, latis, anfractibus decem ad duodecim, subcompressis, lævibus; aperturâ subangustè ovatâ, nitente-fulvâ.*

The brazen-mouth Scarabus. Shell elongately ovate, somewhat pyramidal, faintly clouded with reddish chestnut, varices whitish, broad, whorls ten to twelve, rather compressed, smooth; aperture rather narrowly ovate, shining-fulvous.

Adams, Pro. Zool. Soc. 1850, p. 152.
Hab. Solomon's Islands.

Of a distinct pyramidal form, and pale foxy-red colour.

Scarabus Pl. II.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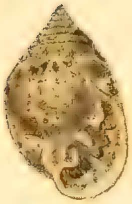
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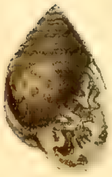
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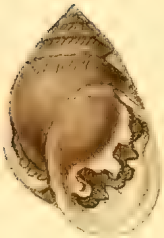
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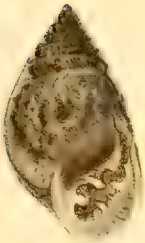
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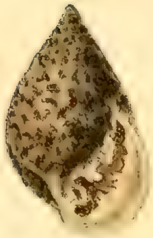
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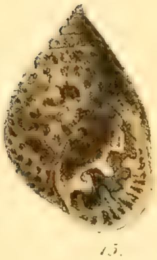
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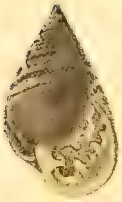
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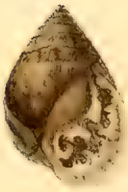
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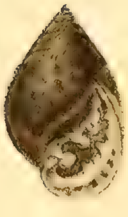
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Sowerby. del et lith

Vincent Brooks, Imp

SCARABUS.

PLATE II.

Species 9. (Mus. Cuming.)

Scarabus semisulcatus. *Scar. testâ subabbreviato-pyramidali, purpurascente-castaneâ, varicibus albidis, anfractibus octo, lævigatis; aperturâ rotundato-ovatâ, parviusculâ, subochraceâ; marginibus approximatis.*

The half-grooved Scarabus. Shell rather shortly pyramidal, purple-chestnut, varices whitish, whorls eight, smooth; aperture rotundately ovate, rather small, yellowish, with the margins approximating.

Adams, Pro. Zool. Soc. 1850, p. 151.

Hab. ——?

A smooth purplish-chestnut shell, of rather shortly pyramidal form, semi-grooved below the suture, but not more so than other species. The plicated grooving round the shoulder of the whorls is a generic rather than a specific character.

Species 10. (Mus. Cuming.)

Scarabus imperforata. *Scar. testâ ovatâ, compressâ, fulvescente, rufo-castaneo marmoratâ, spirâ breviusculâ, acuminatâ, anfractibus octo, lævigatis; aperturâ obliquè ovatâ, ochraceâ.*

The imperforate Scarabus. Shell ovate, compressed, fulvous, marbled with reddish-chestnut, spire rather short, acuminated, whorls eight, smooth; aperture obliquely ovate, yellowish.

Adams, Pro. Zool. Soc. 1850, p. 151.

Hab. Borneo.

The specific name of this species appears to me to be scarcely more appropriate than the last. The umbilicus in *Scarabus* has little, if any, specific value. In all closely convoluted shells having, generically, an appressly expanded columellar lip, the axis of convolution so far varies as that the umbilicus may be more covered in some specimens than in others.

Species 11. (Mus. Cuming.)

Scarabus Borneensis. *Scar. testâ subquadrato-ovatâ, tenuiculâ, fulvescente, castaneo fasciatâ et maculatâ, spirâ brevi, obtusiusculâ, anfractibus septem ad octo, supernè vix plicato-striatis; aperturâ oblongo-ovatâ; margine fulvâ, supernè subemarginatâ.*

The Borneo Scarabus. Shell somewhat squarely ovate, rather thin, spire short, somewhat obtuse, fulvous, banded and blotched with chestnut, whorls seven to eight, scarcely plicately striated round the upper part; aperture oblong-ovate, fulvous at the edge, slightly notched at the upper part.

Adams, Pro. Zool. Soc. 1850, p. 152.

Hab. Borneo.

A shell of rather light structure, in which the painting inclines to be disposed in transverse bands.

Species 12. (Mus. Cuming.)

Scarabus Cumingianus. *Scar. testâ obeso-ovatâ, crassâ, sordidè livido-fuscescente, spirâ breviusculâ, varicibus validis sed indistinctis, anfractibus octo ad novem, subrugatis; aperturâ quadrato-ovatâ, labro calloso-producto, supernè emarginato.*

Cuming's Scarabus. Shell stoutly ovate, thick, dull livid-brown, spire rather short, varices strong but indistinct, whorls eight to nine, rather wrinkled; aperture squarely ovate, lip callously produced, notched at the upper part.

Petit, Pro. Zool. Soc. 1843, p. 3.

Hab. Boljoon, Island of Zebu, and Tanhay, Island of Negros, Philippines; Cuming.

A dull livid-brown species, of rather stout callous growth, the varices being much absorbed.

Species 13. (Mus. Cuming.)

Scarabus ovatus. *Scar. testâ ovatâ, subobesâ, albidâ, rufo-castaneo plus minus marmoratâ, anfractibus novem ad decem, striis plicatis corrugato-descendentibus; aperturâ subquadrato-ovatâ, parviusculâ, margine subproducto.*

The ovate Scarabus. Shell ovate, rather stout, whitish, more or less marbled with reddish-chestnut, whorls nine to ten, with the plicated striæ descending in wrinkles; aperture somewhat squarely ovate, with the margin rather small, rather produced.

Pythia ovata, Pfeiffer, Pro. Zool. Soc. 1854, p. 299.

Hab. ——?

Chiefly distinguished by a more than usually ovate stoutness of the body-whorl, with smaller aperture, as opposed to the more pyramidal growth of the species nearest allied to it.

November, 1860.

Species 14. (Mus. Cuming.)

Scarabus leopardus. *Scar. testâ latè ovatâ, compressiusculâ, fulvescente, castaneo sparsim marmoratâ, spirâ abbreviato-acuminatâ, varicibus subindistinctis, anfractibus novem ad decem, subcorrugatis; aperturâ subangustè ovatâ, curvatâ, labro columellari latè appressè contorto.*

The leopard Scarabus. Shell broadly ovate, rather compressed, fulvous, sparingly marbled with chestnut, spire shortly acuminated, varices rather indistinct, whorls nine to ten, slightly wrinkled; aperture rather narrowly ovate, curved, columellar lip broadly appressly contorted.

Hab. —— ?

This species, which Mr. Cuming has for some time separated in his cabinet from the rest, is distinguished by a peculiar curvature of the aperture, arising from the columellar lip being more than usually broadly appressly reflected, giving a kind of angular contortion to this corner of the aperture. The varices are less distinctly developed, and the colouring is more sparingly distributed.

Species 15. (Mus. Cuming.)

Scarabus Petiverianus. *Scar. testâ subrotundato-ovatâ, albidâ, castaneo densè nebulatâ, anfractibus novem, lævigatis; aperturâ ovatâ, castaneo lineari-maculatâ.*

Petiver's Scarabus. Shell somewhat rotundately ovate, whitish, densely clouded with chestnut, whorls nine, smooth; aperture ovate, linearly spotted with chestnut.

Férussac, Prodrome, p. 101. Petiver, Gaz. Nat. pl. 4. f. 10.

Auricula Petiveriana, Deshayes.

Scarabus pantherinus, Adams.

Hab. Island of Siquijor, Philippines (in the woods and stones); Cuming.

A species of well-marked but simple character, rather rotundate in form.

Species 16. (Mus. Cuming.)

Scarabus Macgillivrayi. *Scar. testâ pyramidali-ovatâ, sordidè purpureâ, immaculatâ, varicibus albidis, anfractibus octo, lævigatis; aperturâ ovatâ.*

Macgillivray's Scarabus. Shell pyramidally ovate dull purple, unspotted, varices white, whorls eight, smooth; aperture ovate.

Pythia Macgillivrayi, Pfeiffer, Pro. Zool. Soc. 1854, p. 298.

Hab. Isle of Aneiteum, New Hebrides; Macgillivray.

It appears to me somewhat doubtful whether this is not a variety of *S. semisulcatus*.

Species 17. (Mus. Cuming.)

Scarabus undatus. *Scar. testâ subquadrato-ovatâ, sordidè fuscâ, castaneo obscurè lentiginosâ, spirâ brevi, anfractibus octo ad novem, longitudinaliter undato-corrugatis; aperturâ quadrato-ovatâ, supernè obscurè angulato-emarginatâ, dentibus prominentibus.*

The waved Scarabus. Shell somewhat squarely ovate, dull-brown, obscurely freckled with chestnut, spire short, whorls eight to nine, longitudinally wave-wrinkled; aperture squarely ovate, faintly angularly notched at the upper part, teeth prominent.

Lesson, Zool. Voy. de la Coquille, vol. ii. p. 336. pl. 10. f. 6.

Hab. —— ?

A dull, short, squarely ovate species, sculptured with waved wrinkle-like striæ, in which the teeth of the body-whorl are rather prominently developed.

Species 18. (Mus. Cuming.)

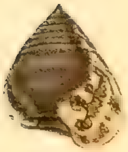
Scarabus nux. *Scar. testâ subabbreviato-ovatâ, obesiusculâ, purpureo-fuscâ, castaneo obscurè maculatâ, anfractibus octo, partim corrugato-striatis; aperturâ curvatâ, supernè subemarginatâ, dentibus prominentè distortis, labro columellari angulato-reflexo.*

The nut Scarabus. Shell rather shortly ovate, somewhat stout, purple-brown, obscurely spotted with chestnut, whorls eight, partially wrinkle-striated; aperture curved, slightly notched at the upper part, with the teeth prominently twisted, columellar lip angularly reflected.

Hab. —— ?

A purple-brown chestnut mottled species, of a shortly ovate form, with rather narrow curved aperture, angularly reflected below the columella, while the teeth of the body-whorl are rather conspicuously twisted.

Scarabus Pl. III.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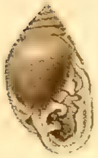
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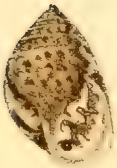
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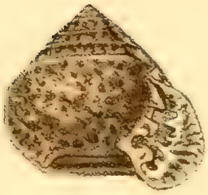
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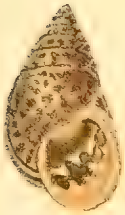
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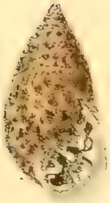
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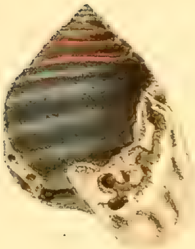
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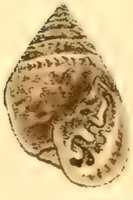
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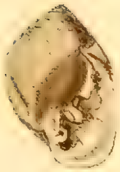
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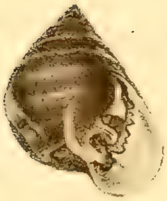
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Sowerby, del et lith.

Vincent Brooks, Imp.

SCARABUS.

Plate III.

Species 19. (Mus. Cuming.)

Scarabus Ceylanicus. *Scar. testâ abbreviato-trigonâ, purpureâ, castaneo sparsè tinctâ, anfractibus octo ad novem, densè minutè corrugato-striatis, ultimo perabruptè angulato; aperturâ ovatâ, parvâ, aurantio-fulvâ.*

The Ceylon Scarabus. Shell shortly triangular, purple, sparingly stained with chestnut, whorls eight to nine, densely minutely wrinkle-striated, last whorl very abruptly angled; aperture ovate, small, orange-fulvous.

Pythia Ceylanica, Pfeiffer, Zeitschrift für Malak. 1853, p. 192.

Hab. Ceylon.

Of a peculiar abruptly angled triangular form, with the aperture comparatively small.

Species 20. (Mus. Cuming.)

Scarabus Cecillei. *Scar. testâ oblongo-ovatâ, subcylindraceâ, compressiusculâ, sordidè fulvo-fuscâ, obscurè purpureo-fasciatâ, spirâ brevi, subobtusâ, anfractibus septem, longitudinaliter rugoso-striatis; aperturâ subquadrato-oblongâ, supernè angulato-emarginatâ.*

Cecille's Scarabus. Shell oblong-ovate, somewhat cylindrical, rather compressed, dull fulvous-brown, obscurely purple-banded, spire short, rather obtuse, whorls seven, longitudinally roughly striated; aperture somewhat squarely oblong, angularly notched at the upper part.

Philippi, Zeitschrift für Malac. 1847.

Hab. China.

A very characteristic species, collected in China by the distinguished French admiral after whom it is named.

Species 21. (Mus. Cuming.)

Scarabus sinuosus. *Scar. testâ ovatâ, compressiusculâ, albidâ, castaneo sparsim maculatâ, varicibus albis, spirâ parvâ, anfractibus octo ad novem, longitudinaliter corrugato-striatis, interdum lævibus, striis plicatis ferè obsoletis; aperturâ quadrato-ovatâ, supernè angulato-emarginatâ, labro columellari callosè angulato-reflexo.*

The sinuous Scarabus. Shell ovate, rather compressed, whitish, sparingly spotted with chestnut, varices white, spire small, whorls eight to nine, longitudinally wrinkle-striated, sometimes smooth, with the plicated striæ almost obsolete; aperture squarely ovate, angularly notched at the upper part, columellar lip callously angularly reflected.

Adams, Pro. Zool. Soc. 1850, p. 151.

Hab. Island of Negros, Philippines; Cuming.

A simple ovate species, with an unusually small spire, painted rather sparingly with chestnut spots.

Species 22. (Mus. Cuming.)

Scarabus trigonus. *Scar. testâ rotundato-trigonâ, albidâ, punctis castaneis densè lentiginosâ, spirâ parvâ, anfractibus octo ad novem, subtiliter corrugato-striatis, striis granulatis, anfractu ultimo latissimè perabruptè angulato; aperturâ parviusculâ, prominentè effusâ.*

The triangular Scarabus. Shell rotundately triangular, whitish, densely freckled with chestnut dots, spire small, whorls eight to nine, finely wrinkle-striated, striæ granular, last whorl broadly very abruptly angled; aperture rather small, prominently effused.

Troschel, Wiegmann's Archives, 1840.

Hab. Sorsogon, Island of Luzon, Philippines (dense woods, in damp places); Cuming.

The very abrupt triangular development of the last whorl of some of the *Scarabi* has its maximum in this species. In other respects it is distinguished chiefly by the small freckled character of the painting.

Species 23. (Mus. Cuming.)

Scarabus pyramidatus. *Scar. testâ pyramidali-ovatâ, albidâ vel purpurascente, rufo-castaneo nebulatâ, spirâ exsertâ, anfractibus septem ad octo, lævibus, striis plicatis subobsoletis; aperturâ parviusculâ, rotundatâ, vividè aureo-sanguineâ.*

The pyramidal Scarabus. Shell pyramidally ovate, white or purplish, clouded with reddish-chestnut, spire exserted, whorls seven to eight, smooth, plicated, striæ almost obsolete; aperture rather small, rounded, bright golden-red.

Reeve, Ann. and Mag. Nat. Hist. 1842, p. 221.

Hab. New Ireland; Hinds. Island of Guam; Captain Masters.

November, 1860.

Pyramidal in form, but chiefly distinguished by its rounded golden-red aperture.

Species 24. (Mus. Cuming.)

Scarabus Argenvillei. *Scar. testâ pyramidali-oblongâ, angustâ, compressiusculâ, albidâ, rubido-castaneo lentiginosâ, anfractibus novem ad decem, longitudinaliter corrugato-striatis; aperturâ ovatâ, supernè moderatè angulato-emarginatâ.*

Argenville's Scarabus. Shell pyramidally oblong, narrow, rather compressed, whitish, freckled with reddish-chestnut, whorls nine to ten, longitudinally wrinkle-striated; aperture ovate, moderately angularly notched at the upper part.

Hab. ——?

Of a narrower and more oblong pyramidal form than the preceding species, while the aperture, it will be seen, is altogether different.

Species 25. (Mus. Cuming.)

Scarabus inflatus. *Scar. testâ globoso-trigonâ, subinflatâ, fulvâ, livido-purpureâ, obscurè fasciatâ, spirâ brevi, anfractibus octo, densè minutè corrugato-striatis, ultimo abruptè angulato; aperturâ obliquè ovatâ, margine conspicuè effusâ.*

The inflated Scarabus. Shell globosely triangular, rather inflated, fulvous, obscurely banded with livid-purple, spire short, whorls eight, densely minutely corrugately striated, last whorl abruptly angled; aperture obliquely ovate, conspicuously effused at the margin.

Pythia inflata, Pfeiffer, Zeitschrift für Malak. 1853, p. 192.

Hab. Borneo.

A fine bold example of the abruptly-angled type of the genus.

Species 26. (Mus. Cuming.)

Scarabus striatus. *Scar. testâ ovatâ, fulvescente, rufo-castaneo nebulatâ, anfractibus octo ad novem, longitudinaliter rugato-striatis; aperturâ subquadrato-ovatâ, subprominentè effusâ.*

The striated Scarabus. Shell ovate, fulvous, clouded with reddish-chestnut, whorls eight to nine, longitudinally wrinkle-striated; aperture somewhat squarely ovate, rather prominently effused.

Reeve, Ann. and Mag. Nat. Hist. 1842, p. 220.

Hab. San Nicholas, Island of Zebu, Philippines; Cuming.

This is not a satisfactory example of the species. For a figure of the original type see Conch. Syst. vol. ii. pl. 188. f. 9.

Species 27. (Mus. Cuming.)

Scarabus avellana. *Scar. testâ subquadrato-ovatâ, compressiusculâ, livido-castaneâ, vix maculatâ, spirâ brevissimâ, anfractibus septem ad octo, longitudinaliter tenuè rugato-striatis; aperturâ quadrato-oblongâ, supernè subangulato-emarginatâ, infernè effusâ.*

The filbert Scarabus. Shell somewhat squarely ovate, rather compressed, livid-chestnut, scarcely blotched, whorls seven to eight, longitudinally finely wrinkle-striated; aperture squarely oblong, slightly angularly notched at the upper part, effused at the lower.

Hab. Island of Madura, near Java.

The accompanying figure of this species, which is a very characteristic one, fully illustrates it peculiarities.

Species 28. (Mus. Cuming.)

Scarabus plicatus. *Scar. testâ obliquè trigonâ, fulvescente, livido-purpureo tinctâ et fasciatâ, spirâ brevi, anfractibus septem ad octo, minutissimè corrugato-striatis, ultimo subabruptè angulato; aperturâ obliquè quadratâ, conspicuè effusâ.*

The folded Scarabus. Shell obliquely triangular, fulvous, stained and banded with livid-purple, spire short, whorls seven to eight, very minutely wrinkle-striated, last whorl rather abruptly angled; aperture obliquely square, conspicuously effused.

Férussac, Prodrome, p. 101.

Auricula plicata, Deshayes.

Scarabus triangularis, Benson.

Hab. India; Benson. Jaffna, Jaffnapatam, Ceylon (in saline marshes); Gardner.

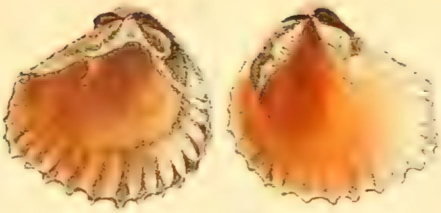
This and *S. Ceylanicus*, inhabiting Ceylon, belong to a very characteristic type of the genus represented in Borneo by *S. inflatus*.

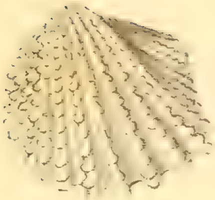
MONOGRAPH

OF THE GENUS

TRIGONIA.

"I will be bright, and shine in pearl and gold."
Shakspeare

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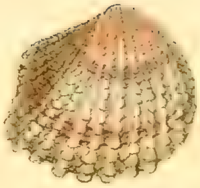
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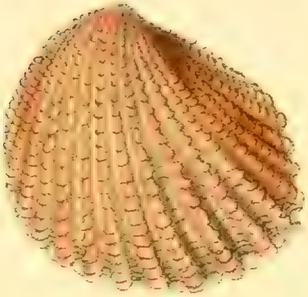
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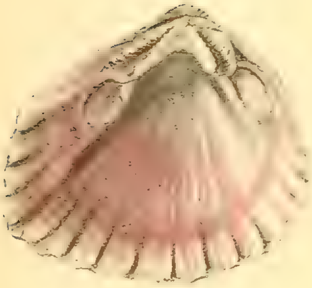
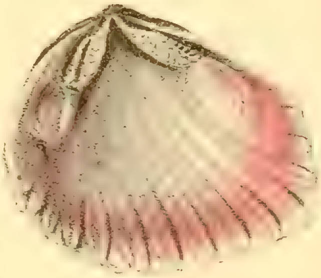
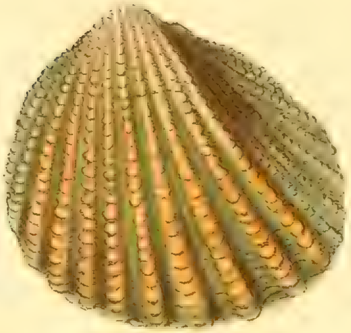
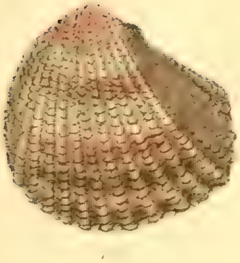
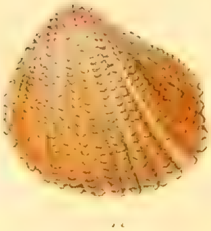
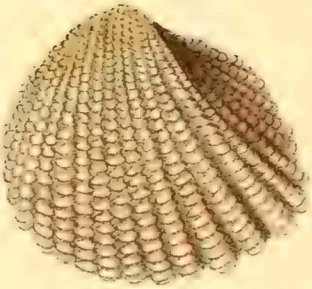












TRIGONIA.

Plate I.

Genus TRIGONIA, *Bruguière.*

Testa æquivalvis, obliquè trigono-ovata, intus vividè iridescente-margaritacea, roseo-purpurascens vel argentea vel aurea, extus radiatim nodoso-costata, violaceo-purpurea, epidermide fuscâ induta. Cardo dentibus oblongis, lamelliformibus, divaricatis, in valvâ dextrâ duobus, utroque latere transversim sulcatis, in valvâ sinistrâ quatuor, uno latere tantum sulcato. Ligamentum externum, marginale.

Shell equivalve, obliquely triangularly ovate, bright iridescent-pearl within, rose-purple, silvery or golden, externally radiately nodosely ribbed, violet-purple, covered with a brown epidermis. Hinge composed of two divaricate, oblong, lamelliform teeth, transversely grooved on both sides in the right valve, interlocking between four similar teeth, transversely grooved only on the inner side, in the left valve. Ligament external, marginal.

Of the genus *Trigonia* more than a hundred fossil species are known from different parts of Europe, Asia, South Africa, and even south-western America; but it only appears in a living state on the shores of Australia and Tasmania. Six recent species have been described, and they may be reduced to the four represented in our Plate.

The shell of *Trigonia* has of all bivalves the most brilliantly iridescent nacre in the interior; and it has the most closely interlocking hinge. The shell-collector prides himself largely on the display which the pearly lining of the valves, exquisitely rose-purple or orange-tinted, with the addition of a silvery or golden hue, makes in his cabinet; and when separated it requires no little ingenuity and neatness of handling to close them again. In the right valve are two large, oblong, divaricate teeth, transversely grooved on each side, and these fit closely between two divaricate pairs of similarly grooved teeth in the left valve, grooved only on the inner side where the teeth of the corresponding valve are received.

The animal of *Trigonia*, described originally by MM. Quoy and Gaimard, and afterwards by Professor Huxley, has the edge of the mantle crimped to fill the hollows of the ribs of the shell, and the foot is sharply angled and crenated, possessing considerable muscular action. Mr. Samuel Stutchbury, while dredging in Sydney Harbour, placed a *Trigonia* on the gunwale of his boat, and it leaped overboard, clearing a ledge of four inches.

Species 1. (Fig. *a*, *b*, *c*, Mus. Cuming.)

Trigonia Lamarckii. *Trig. testâ subventricosâ, solidâ, antice subobtuso-angulatâ, costis confertiusculis, muricato-nodatis.*

Lamarck's Trigonia. Shell somewhat ventricose, solid, anteriorly somewhat obtusely angled, ribs rather close-set, prickly-noduled.

Trigonia Jukesii, Adams.

Hab. Australia.

In this species, which is the most abundant of the genus, the shell is stouter and more quadrately ventricose than the rest. The ribs are narrower and closer, and the nodules incline more to the form of prickly scales. Fig. 1 *a* represents a specimen in which the pearly nacre of the interior is of a golden or salmon-colour, and Fig. 1 *b* and Fig. 1 *c* varieties of coarser and finer varieties of sculpture. *T. Jukesii* appears to me to be a specimen of the coarser variety.

Species 2. (Fig. *a*, *b*, Mus. Cuming.)

Trigonia uniophora. *Trig. testâ compressiusculâ, posticè angulatim compressè expansâ, costis subdistantibus, nodis rotundatis, obtusis.*

The plough-share Trigonia. Shell rather compressed, angularly compressly expanded posteriorly, ribs rather distant, nodules rounded, obtuse.

Gray, App. to Jukes' Narr. Voy. Fly, p. 361. pl. 2. f. 5.

Hab. Cape York, Australia (in six fathoms); Jukes.

Of this species Mr. Cuming possesses only the specimens Fig. 2 *b* and the odd valve Fig. 2 *a* which is the more characteristic of the two. It is of a marked obliquely expanded, compressed growth, with fewer, more distant ribs, on which the nodules are rounded and obtuse.

Species 3. (Fig. *a*, *b*, *c*, *d*, Mus. Cuming.)

Trigonia margaritacea. *Trig. testâ obliquè suborbiculari, modicè convexâ, posticè parum angulatâ, costis minus prominentibus, distantibus, nodis parviusculis.*

The pearly Trigonia. Shell obliquely suborbicular, moderately convex, but little angled posteriorly, ribs less prominent, distant, nodules rather small.

LAMARCK, Ann. du Mus. vol. iv. p. 355. pl. 67. f. 2.

Trigonia pectinata, Lamarck.

Hab. Tasmania.

This is the largest of the recent *Trigoniæ*, a native of the shores of Tasmania, and it is distinguished by a more orbicular form, while the ribs are not so strongly developed.

Species 4. (Mus. Cuming.)

TRIGONIA STRANGEI. *Trig. testâ subobtusè rotundatâ, posticè subabbreviato-angulatâ, costis amplis, confertis, nodis numerosissimis, conspicuè verrucatis.*

STRANGE'S TRIGONIA. Shell somewhat obtusely rounded, posteriorly rather shortly angled, ribs large, close-set, with the nodules very numerous and conspicuously warty.

ADAMS, Pro. Zool. Soc. 1852, p. 91.

Hab. Sydney, New South Wales (in deep water); Strange.

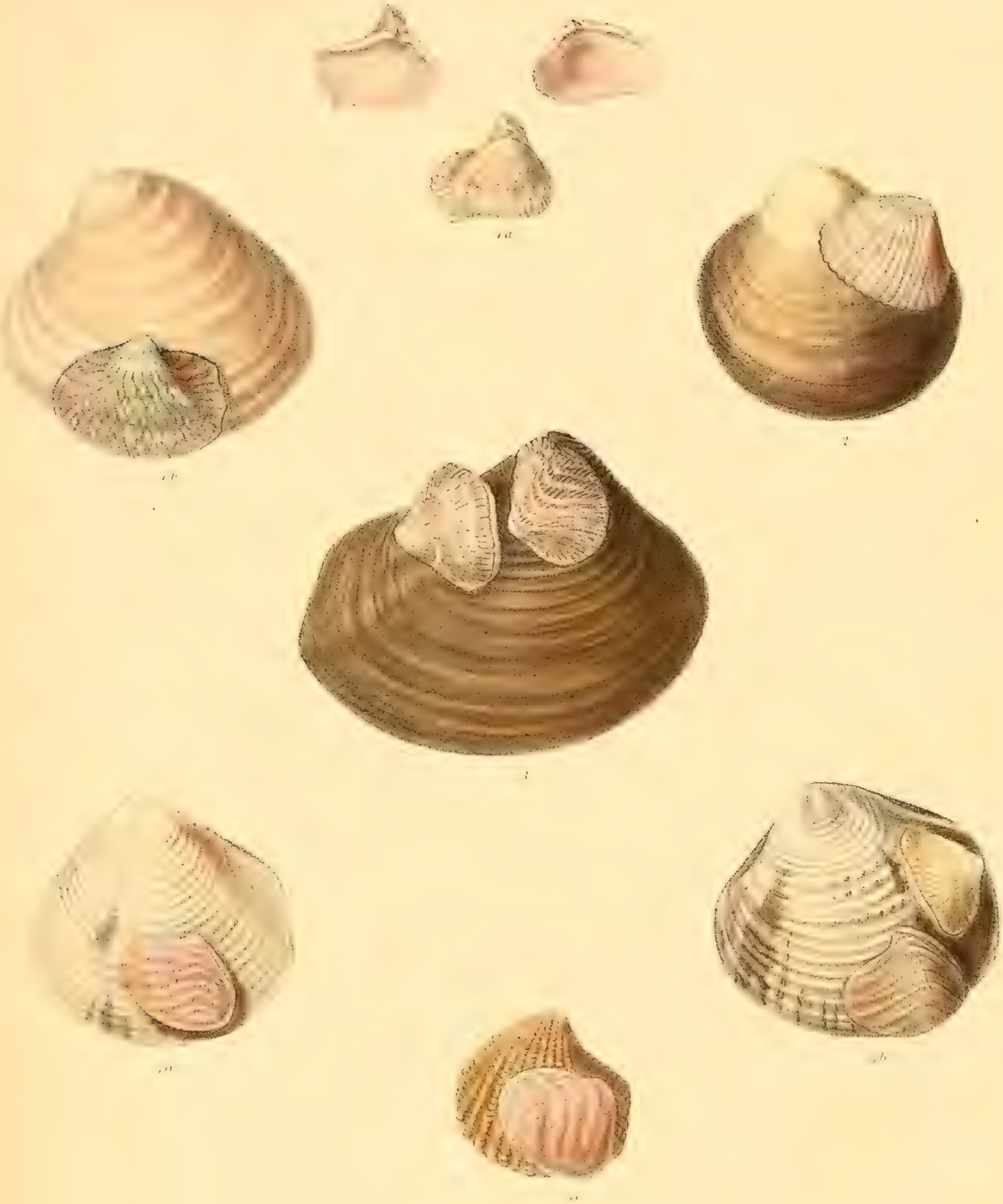
A very characteristic species, distinguished at once from all the rest by its crowded wart-like nodules.

MONOGRAPH

OF THE GENUS

MYOCHAMA.

> "'Tis a burthen
> Which I am proud to bear."
>
> *Shakspeare.*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MYOCHAMA.

Plate I.

Genus MYOCHAMA, *Stutchbury.*

Testa inæquivalvis, adhærens, valdè irregularis, valvâ dextrâ affixâ, sinistrâ liberâ, ventricosâ, ambabus dentibus duobus marginalibus divergentibus, foveolâ trigonâ intermediâ ligamentum, appendice testaceâ convexum, accipiente.

Shell inequivalve, adhering, very irregular, right valve affixed, left valve free, ventricose, both valves with two marginal divergent teeth, having an intermediate pit receiving the ligament, in connection with a shelly appendage.

Myochama is a parasitic ossicle-hinged bivalve peculiar to Australia, and it is mostly found adhering to other bivalves. The specimens selected for illustration are attached to shells of *Pectunculus*, *Crassatella*, and *Trigonia*, and on two of them are two different species of *Myochama*, the same two species on each. The hinge of *Myochama* is composed of two divergent marginal teeth, of somewhat rude construction, enclosing between them a pit for the reception of an internal ligament, which, like the *Anatina* tribe, has a small testaceous appendage or ossicle in connection with it. The right valve is the adhering valve, the left is more or less ventricose; and according to the irregularity of the surface of its place of attachment, so does it more or less participate in that irregularity, apart from its natural sculpture. The specimens of *Myochama Anomioides* on the *Pectunculus* at Fig. 4 *b*, and on the *Trigonia* at Fig. 4 *c*, are finely ridged alike in radiations from the umbo; but the diagonal ribs vary, it will be seen, in bulk, according to the bulk of the ribs of the shell on which each specimen has grown.

Species 1. (Fig. *a*, Mus. Sowerby; Fig. *b*, Mus. Cuming.)

Myochama Strangei. *Myoc. testâ ovatâ vel transversè oblongâ, tumidè dichotomè corrugato-liratâ, plerumque plus minus malleatâ; sordidè luteâ vel carneâ.*

Strange's Myochama. Shell ovate or transversely oblong, tumidly dichotomously wrinkle-ridged, generally more or less malleated; dull yellow or flesh.

Adams, Pro. Zool. Soc. 1850, p. 23. pl. 8. f. 2. *Myochama transversa*, Adams.

Hab. Port Jackson, Australia; Strange. Cape Upstart, Australia; Jukes.

This species varies in form from ovate to transversely oblong, and it is extremely irregular in its growth. It is of a dull colour, compared with the other species of the genus, and is generally more or less decussately malleated.

Species 2. (Mus. Cuming.)

Myochama Keppeliana. *Myoc. testâ subquadrato-ovatâ, ventricosâ, circa umbones tumidè productâ, posticè angulato-truncatâ, radiatim costatâ, costis planulatis confertis irregularibus, nonnullis dichotomis, superficialiter arcuatim squamulatis; carneâ.*

Keppel's Myochama. Shell somewhat squarely ovate, ventricose, tumidly produced about the umboes, posteriorly angularly truncated, radiately ribbed, ribs flattened, close-set, irregular, some dichotomous, superficially arcuately scaled; flesh-colour.

Adams, Pro. Zool. Soc. 1852, p. 90. pl. 15. f. 1.

Hab. Bass's Straits, Australia (in deep water); Keppel.

The specimen figured of this species attached to a *Pectunculus*, collected at Bass's Straits, Australia, by the Hon. Captain Keppel, is, I believe, the only one known; but it appears to be well distinguished in form and sculpture from its nearest ally *M. Anomioides.*

Species 3. (Fig. 3, left specimen; Fig. 4 *b*, upper specimen.)

Myochama tabida. *Myoc. testâ trigonâ, posticè subtruncatâ, radiatim liratâ, liris tenuibus, numerosis, confertis, nonnullis dichotomis; sordidè albâ.*

The consumptive Myochama. Shell triangular, posteriorly a little truncated, radiately ridged, ridges fine, numerous, close-set, some dichotomous; dull-white.

Hab. Australia; Strange.

This appears to me to be a well-marked species. Mr. Cuming possesses several specimens, all characterized alike by a triangular outline of form, by a more numerous radiation of fine close-set ridges, and by a uniform dull-white, though perfectly fresh, appearance. On the specimens of *Crassatella* and *Pectunculus*, represented at Fig. 3 and Fig. 4 *b*, *M. tabidus* occurs in company with *M. Anomioides.*

September, 1860.

Species 4. (Fig. 4 *a*, 4 *b*, lower specimen, and 4 *c*.)

MYOCHAMA ANOMIOIDES. *Myoc. testâ ovatâ, ventricosâ, umbonibus subrostratis, lateribus rotundatis, radiatim liratâ, liris irregularibus, tumidiusculis, plus minus obscurè dichotomis ; carneo-roseâ.*

THE ANOMIA-LIKE MYOCHAMA. Shell ovate, ventricose, umboes rather beaked, sides rounded, radiately ridged, ridges irregular, somewhat swollen, more or less obscurely dichotomous; flesh-rose.

STUTCHBURY, Zool. Journ. vol. v. pl. 42. f. 1–4.

Myochama Stutchburyi, Adams.

Hab. Australia; Stutchbury, Strange.

This species never has the triangular development of the preceding species; it is more ventricose and ovate, with the umboes distinctly inclined to become beaked. It is moreover always of a flesh-rose colour. The diagonally waved ribs on the specimens figured are caused by the ribbed surface of the shell on which the *Myochama* grows. Hence the specimen attached to the *Trigonia* has broader and larger diagonal ribs than those attached to the *Pectunculi.*